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THE

Practical Farmer:

OR, THE

Hertfordshire Husbandman:

Containing many New

IMPROVEMENTS in HUSBANDRY.

I. Of MELIORATING the different SOILS, and all other Branches of Business relating to a FARM.

II. Of the NATURE of the several Sorts of WHEAT, and the SOIL proper for each.

III. Of the great Improvement of BARLEY, by BRINEING the SEED, after an entire new Method, and without Expence.

IV. Of increasing Crops of PEASE and BEANS by HORSE-HOUGHING.

V. Of TREFOYLE, CLOVER, LUCERNE, and other Foreign Grasses.

VI. A new Method to IMPROVE LAND at a small Expence, with BURNT CLAY.

VII. Of the Management of COWS, SHEEP, SUCKLING of CALVES, LAMBS, *&c.* with Means to prevent, and Remedies to cure ROTTENNESS in Sheep.

VIII. How to keep PIGEONS and TAME RABBITS to Advantage.

IX. A new Method of PLANTING and IMPROVING FRUIT-TREES in *Ploughed-Fields.*

By *WILLIAM ELLIS,*

Of *Little Gaddesden,* in *Hertfordshire.*

LONDON:

Printed for WEALER BICKERTON, at Lord *Bacon's* Head, without *Temple-Bar*; THOMAS ASTLEY, at the *Rose*; and STEPHEN AUSTEN, at the *Angel* and *Bible*, in St. *Paul's Church-Yard.* M. DCC. XXXII.

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PREFACE.

AS no Profeſſion is more uſeful in the World, than this of Agriculture; *ſo does it require the greateſt Care, Study and Pains to manage its many depending Branches, ſo as to make them anſwer ſucceſsful Ends. For this Purpoſe ſeveral elaborate Tracts have been writ, to forward Improvements in this boundleſs Science; which has brought about, and effected ſuch beneficial Alterations in Farming, as to cauſe both Landlord and Tenant to rejoice in their plentiful Productions.*

In the further purſuance of which, I have here humbly thrown my Mite into the Publick Treaſury: And,

for the ſake of my good Intention for the Common-Weal, I hope the Generous will excuſe the Deficiencys that may have accompany'd my Ruſtick Pen; which hereafter I ſhall ſilence, or employ in further Enlargements of this kind, as the following Treatiſe ſhall more or leſs meet with Encouragement from the Publick.

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The Practical Farmer:

OR, THE

Hertfordſhire Husbandman.

WHEAT.

OLD red Lammas has a red Straw, and a red Ear; this is reckoned the beſt of Wheat, becauſe it makes the fineſt Flower. It anſwers better in the Vale and on rich Lands, as in *Bucks*, *Northamptonſhire*, &c. than in the chiltern or high dry Grounds; becauſe it will be larger body'd, and com-

monly exceed all others in bigneſs, when ſown in the beſt Grounds.

Yellow Lammas has a red Ear and white Straw, and is reckoned the ſecond beſt.

Pirky Wheat is the moſt convenient for our chiltern Lands, and will proſper, either in our ſtiff or gravelly Ground, ſells almoſt as well as Lammas, and is more hardy: this Wheat is the thinneſt skin'd of any, and is beſt ſold in Winter, becauſe it will part with its Flower, eaſier than any other; and therefore the Wheat Buyers had rather buy the Lammas in Summer; for that it is thicker skin'd, and holds its Flower tougher, which in ſome meaſure is cured by lying all Winter in the Mow. This Wheat when ſown on gravelly Ground, often obtains ſuch a Colour, that it is hard to know it from Lammas, and frequently deceives the Buyer; it yields beſt in Ear, but won't return ſo much, nor ſo good Flower as Lammas. It is not ſo ſubject to mildew as the two former, and is now more and more ſowed, for its returning above one Buſhel upon five more than the Lammas, and will proſper on our gravelly and whitiſh Grounds when the other fails.

Dugdale Wheat has a four-ſquare Ear, is a hardy Wheat, will grow on ſour Tilth the beſt of any; and therefore, ſome ſay, it's beſt to ſow on a Clover-Lay; but the Wheat-buyers don't care to deal in it, un-

leſs in a dear time, becauſe it makes harſh Flower; ſo that it generally ſells for 2 *s.* in five Buſhel cheaper than others, and is moſtly uſed by the Country Bakers. This Wheat, by its long Beard, receives the Mildews, and ſo 'eſcapes that damage which others are ſubject to; its Fibres keeping the Grain unhurt.

Theſe four ſorts are what they chiefly ſow in *Hertfordſhire*, where they run upon this Grain, as being a County beſt furniſhed of any others, with Water-Mills for grinding the ſame.

Wheat is the propereſt Grain to follow Clover of any, becauſe it will beſt bear with ſour Tilth; and now it's become almoſt a general practice here to harrow in Wheat upon only one ploughing up of Clover thus. Plough up one Land at a time, ſow that, and fold it; then plough up another, and do the like, and ſo on till the Field is done, the larger the Fold the better, for the Field will be ſooner finiſh'd; and by that means the Sheep will be gone from thence, before the Wheat is much up. This dreſſing with the Fold has ſeveral conveniencies; it not only enriches the Land, but treads the Grain in, and ſo preſerves it from dying, and makes it ſtand faſt againſt the Winds. Now as to the proper time of ſowing in this manner, ſome do it from the beginning of *Auguſt*, to the end of *October*, according to the

nature of the Land, on Clays and Wet Grounds firſt; and on Gravels, Chalk, and dry Grounds later. Thoſe that have a great deal to do, ought to begin early, becauſe this Method is ſomething tedious; and the quantity on broad Lands ſhould always be more than on Stitches, becauſe on them the Grain is more covered, when the other is more expoſed to the Beak and Feet of Fowls; ſo that it is generally adjuſted to three Buſhels an Acre on broad Lands, and two Buſhels and a half on Stitches. Others again dreſs with rotten Dung, by putting on about fifteen or twenty Load upon an Acre, immediately after the Wheat is ſown and harrowed in; and I take this to be much preferable to the dunging about *Candlemas* for this Reaſon: The Blade will make its way thro' the Dung, if it be but tolerably ſpread before it ſpires; whereas by laying it on in the Spring, the Blade is cruſhed down, and ſo by the heat of the Dung becomes yellow and dies. Others again will ſoot it quickly after ſowing, and ſome about *Candlemas:* The firſt, becauſe it helps to deſtroy the Worm, which often gnaws the Root of the Wheat, even to the almoſt deſtruction of a Crop; and this red ſmall Worm is apt to be more than ordinary in the Ground after ſow'd Graſſes, and moſt in that after *Ray* Graſs, *St. Foine*, and leaſt after *Clover*; and that white Ground, Gravels, and light, are moſt ſubject to it.

About

About *Berkhamſtead* ſome dare not ſow Wheat on Ground that has laid down two years with Clover, for fear of the Worm, and therefore inſtead of Wheat, ſow Oats; and they ſometimes are ſpoiled by the Worm in their Gravels, and gravelly Loams; but wet Grounds are not ſo ſubject to them. Sooting Wheat about *Candlemas* has been an antient practice; becauſe by that time it was ſuppoſed the danger of great Snows was moſtly over, which otherways might waſh it too haſtily from the Roots of the Grain, and ſo impoveriſh it the Summer following.

A great Farmer at *Dagnal* lying near *Dunſtable*-Down, ſowed a thirty-Acre Field with Wheat on one ploughing, after Clover, and dreſs'd it with Soot about the middle of *November*, ſaying, he believed forward dreſſing beſt, becauſe it killed the Worms before they damaged the Roots of the Wheat: in the next place, it brought the Wheat under ſuch a great head, that it would be as good as half a crop of Graſs, which would be ſuch a ſubſiſtence to his Sheep, that they would return a ſecond dreſſing by their Dung; but this Method he ſaid he dared not practiſe on any other Field he had, becauſe this was a clean Ground, and did not throw up Weeds like the reſt, being a chalky gravelly Loam. Another old Farmer by him ſaid, he dared not feed his Wheat down in a cold wet Soil;

for that, if *May* ſhould be cold and wet, the Weed would get the ſtart of the Wheat, and ſo ſpoil the Crop. And this I have known to be true and fatal to my next Neighbour, who fed down two of his Wheat Fields bare; the one was dreſs'd by a Fold directly on the Wheat, as ſoon as ſown on a Clover Lay, the other firſt fed, and then ſooted; but the Spring 1730 proving cold and wet, and the Ground being of that Nature too, he had but a poor Crop.

Another way is this; After Clover has been fed near two Summers, give it one ploughing the middle of *July*, or the beginning of *Auguſt*; the longer the Clover is, when you plough it in, the better; then let it lie about a Fortnight to rot, and after ſome Rain has fell to mellow the Ground, harrow in your Wheat: if the Ground lie even, you only need harrow the Wheat in at once; but if uneven, twice in a place long-ways, and once a-croſs; and when it is come up, roll it, and not before, becauſe by rolling it too ſoon, it will faſten the Ground, and hinder ſome of the Kernels from coming out: Thus rolling Wheat after it is come up, new-moulds it, faſtens the Root, and forwards the growth of the Grain. And about *Harrow the Hill*, in their pebly gravelly Ground, they plough in their ſecond Crop of Clover when it is fit to mow, on which they harrow in their Wheat,

Wheat, and ſay, they find no dreſſing like it. And on Gravels and other poor Soils, they commonly ſow thicker than on rich Loams, for this Reaſon, becauſe the Grain does not gather and branch on poor Land as on rich; ſo that no more, nor even ſo much comes up, as what you ſow. Likewiſe in white Grounds they ſow three Buſhels on an Acre, when brought under a Tilth; becauſe, ſay they, the Wind often in a dry time blows away the Earth from the Roots, and ſo kills much of the Wheat. Now in caſe the Clover is eat bare when you plough it up, I take it the beſt way to harrow in the Wheat immediately, while the Ground is freſh and hollow, leſt the Buck Rains (as the Farmers call them) fall faſt and harden the Ground, and ſo make it more unfit to receive the Seed; but here I would be underſtood, only where the Clover is ſo eat or mowed, and not where it is ploughed in. And, 'tis certain, that Gravel in particular has a great benefit from Clover, eſpecially when laid down two Years, for in that time it obtains a Cruſt or Turf, which being turned over to the bottom, lies and nouriſhes the Wheat, and will not be devoured by the hungry Gravel like other light dreſſings: then by folding on the ſame the Sheep treads and tumbles on it, ſo as to faſten the Earth and hinder the Worm, and by ſowing early,

the Root enlarges it ſelf, and the Worm has not ſo much power to deſtroy it; then leſs Seed will do, but later more. And in Gravels I have heard of Wheat ſown at *Lady-Day* on a Tilth, was as forward as others at Harveſt, and a middling Crop. A Farmer alſo by me ſowed Wheat in Harveſt, and about *Michaelmas* following eat it down with Sheep, and folded upon it; this proved a great Crop. Again, the ſame Perſon ſowed Wheat after Clover, that had been mowed upon one ploughing only, and it proved a good Crop; and for ſo doing I have heard this Reaſon aſſigned, that when the Clover is fed by Horſes in particular, they will eat the ſweet parts of it, and the other that is ſour they meddle not with, but ſtale and dung on the ſame; ſo that when Wheat grows on this Ground, it generally comes in Tuſſocks and uneven, becauſe ſome parts of the Field are dreſs'd as aforeſaid, and others not: for indeed the Clover by ſtanding ſtill it is fit to mow, gets a head, which attracts and holds the nitrous Dews that enrich the Ground, cover it, and kill the Weeds; inſomuch, that I have often proved it to be the beſt cleanſer of the Ground, and killer of the Thiſtle, and many other Weeds, of any known thing elſe. And after this mowing of Clover, your Crop will come even, and the Wheat be all alike, and often produces a good return; eſpecially

eſpecially if folded, ſooted, or Cart-dung'd at top, with the help of the Clover Roots, which alſo is a ſort of dreſſing. And the next Neighbour to this Man, on a gravelly Soil, mowed his Clover in one Field, and fed another, by this he proved the mowed Field to return the beſt Crop of Wheat. But another Farmer ſaid, that if a piece of Clover be fed with large Cattle, it will be more hollow than that which is mowed, and therefore better for harrowing in of Wheat on one ploughing. And this I have experienc'd on a gravelly Loam, where nine Horſes grazed on about four Acres and an half ſome time. The reaſon I take to be this; that as the Stale and Dung of a Horſe is of a hot fiery nature, and the Beaſt of the largeſt and heavieſt ſize; they, by their Weight and Agility, ſo compreſs the Earth upon their Stale and Dung, that it cauſes a Fermentation in the Ground, which like Yeaſt in Dough, ſwells and hollows it, eſpecially where Horſes graze to the laſt.

Another way is, that of a Farmer at *Penly* that rents three hundred a Year, who a few Years ſince came out of *Berkſhire*; *viz.* he ſows a Field with Peas in Drills, which the Plough makes; and after two ſeveral Hoeings, the Ground is pretty well clear'd from Weeds. This fits it for the reception of Wheat the *Michaelmas* following, when he dreſſes it over with Dung, and either

either ſows it on Stitches, or gives it one ploughing, and harrows in Wheat on broad Land. This way ſeldom fails of a good Crop, for Wheat loves to follow Peas; and when they are a good Crop, that not only kills the Weeds, but hollows, meliorates and enriches the Ground by their Roots, and the nitrous Dews that their Haulm peculiarly contracts, beſides the great cover it affords the Ground. But Dung either ploughed in before the Wheat is ſowed or ſpread, or immediately after, or ſooted, is perfectly neceſſary.

Another Method is, after three ploughings, that the Ground is got into a good Tilth. In the Morning a Gentleman by me ſent to the Kiln for ten Quarters of Stone-Lime, in two Carts, and ſhot each by it ſelf; then immediately three Men fetch'd Water and ſlack'd it to a Powder: which as ſoon as done, the Men took each a pair of Gloves and his Seedcot, and ſowed it over the Ground as thin as they could (for it muſt be ſown hot;) this was on about three Acres, which brought the Ground under a Ferment, and about a Week after they dowed the Wheat in Stitches as uſual. This is a good way of Manuring on Clays and wet Loams, by reaſon of the great heat of the Lime in oppoſition to the cold Ground, and the plenty of Salts with which it abounds. This alſo ſuſtains and preſerves

the

the Wheat under a good head in the Spring, when the cold Chills of Froſt and Rain cut off and ſpoil others.

Another way is, what is often done, as follows: A Farmer having a good Crop of Barley on broad Lands, gave it one ploughing, and harrowed in Wheat, and dreſs'd it with Cart-Dung on the top, but he ſowed it too thick, even above three Buſhel on an Acre, and ſo had but an indifferent Crop, for it was hopper-ear'd; tho' the ſame Man told me, had he ſowed leſs Seed, it would have been a good Crop: this was on a Loamy Gravel, and provided it is a dry time when you plough and ſow, this way may be ſucceſsful; but the beſt way (if you have time enough) is to give it two ploughings, and ſow the Wheat on Stitches. This way faſtens the Wheat in, whereas Wheat ſown on one ploughing after Barley is hazardous, becauſe it is apt to ſtand looſe, and ſo liable to be hurt by Winds: and there is another inconveniency in this Method; for by running one Crop on the back of another, it is apt to ſour the Ground; which his did, and obliged him to chalk it after the Wheat was off, in order to ſweeten and hollow the Land.

Brining

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Brining and Liming of WHEAT, BARLEY, *&c.*

BRining and Liming of Wheat was firſt invented for preventing its being ſmutty in the Ear; and notwithſtanding the following various Opinions and Methods are now amongſt the Farmers, they ſtill ſeem to be at a loſs to account for the true cauſe of the ſmuttineſs of Wheat: but the beſt Reaſon I have heard, is from the next Farmer to me, who has been a conſiderable one theſe thirty Years; he ſays, that it is the damaged imperfect light Kernels that produce ſmutty Ears; and theſe, as well as other trumpery, ſwim on the top of the Brine, by ſtirring the Wheat often about, and ſo are skim'd off: and what defective Seeds may chance to eſcape, I preſume the Salt and Lime ſo deſtroy the ſmutty part of them, and invigorate the better part, as to hinder any prejudice from them afterwards. And therefore, the uſual ſaying, that if a Man ſows ſmutty Seed, he'll be ſure to have ſmut again, I am of opinion, is not certain. To prove which, the ſame Farmer happening to buy a ſmutty Crop of Wheat as it ſtood on the Ground, ventured to ſow the ſame for the next Year's Crop, and had as ſound Wheat at Harveſt as ever he

he had in his Life; but he obſerved, that the Seed that produced the ſmutty Crop, was not brined and skim'd, but that he ſowed was.

A Farmer that uſed to ſow about twelve Acres of Ground, bought half a Buſhel of Salt, part of which he put Water to, till an Egg ſwam; then the Evening before, he put the Wheat that was to be ſown on the Morrow (about two Buſhels and a Peck) into a Tub to the Brine (in which is a Tap and Tap-Wips) and lets it lie an Hour, and skims the Rubbiſh off, then draws off the Brine, and lets it lie all Night on the Ground in a broad Heap. The next Morning he limes, and ſows the Wheat; this he ſays ſurely prevents all Smut, when liming and ſtaling can't be depended on.

Another makes his Brine not ſo ſtrong as that above, by a fourth part, lets his Wheat lie in it all Day, and takes it out at Night, which he ſpreads on the Ground, and limes it next Morning.

A Farmer told me, that they made the Brine that an Egg would ſwim, and let Wheat lie in it all Night, and ſowed it the next Morning; but the Wheat almoſt peeled, and there was hardly any at Harveſt. I ſuppoſe this Brine was made too ſtrong; for I never underſtood, that Wheat ſuffered in this manner by any other than him; for this is reckoned to be the good ſure old

way

way of managing the Seed, by letting it lie all Night in Brine that will juſt ſwim an Egg, and the next Morning to ſift Lime over it, and ſow it. But one informed me, he committed a great miſtake in this way, for having expended the greateſt part of his Brine, to make it good on a ſudden, he threw in ſome Chamber-lye, which ſo flea'd and ſtript the skin of his Wheat, that it ſpoiled the Crop, and he had not above twenty Ears on half an Acre of Land: This Perſon ſays, he never knew Brine alone do this.

One alſo ſays, that he only puts Urine on the Seed, about enough to juſt wet it all, then ſifts Lime on it, and ſows directly; by this he ſays, he never has ſmutty Wheat. He ſays farther, that ſome have ſmutty Wheat, by uſing old powder'd Lime, inſtead of Stone Lime; and he is of Opinion, that there is more ſecurity in the Lime than the Stale.

Another Farmer of about forty Years Experience, has left off Brining, and follows this way as beſt: He threw five Buſhels of Wheat on the Ground, and then run one large Garden-Pot of black Ditch Water, and as much Urine mix'd together, over the ſame; then ſifted about a Peck of Lime, and mix'd it with the Shovel, and ſowed it on about two Acres of Clover-Lay thus: firſt on the rough Ground as the Plough left it in broad Lands, half the Seed, which he

he harrowed once in a place, then he ſowed the other half, and harrowed the ſame way once in a place; then he harrowed it overthwart or acroſs, twice in a place.

There is a certain Author recommends this: Pour into quick and unſlacked Lime, as much Water as ſufficeth to make it ſwim above the Lime, and unto ten Pounds of the ſaid Water poured off, mix one Pound of *Aqua Vitæ*; and in that Liquor ſteep or ſoak Wheat or Corn twenty four Hours: which being dried in the Sun, or in the Air, ſteep again in the ſaid Liquor twenty four Hours more, and do it likewiſe a third time. Afterwards ſow them at great diſtances one from another, above the diſtance of a Foot between each Grain; ſo one Grain will produce thirty, forty, and fifty Ears, and thoſe very fruitful, with the Stalk equalling the Stature of a Man in height.

The next Account is taken out of the Philoſophical Tranſactions.

On the 22d of *March* was ſteep'd,

A Pea, Barley, and Wheat, in *Brimſtone* Water.

The ſame kind in *Allom* Water.

Ditto in old Diſſolution of *Sal Tartar.*

Ditto in *Cap. Mort.* of *Sal. Armo.* diſſolved in Urine.

Ditto in the Diſſolution of Salt of Walls.

The ſame in the Diſſolution of *Nitre.*

Ditto in Urine.

After

After the ſteeping them five Days or Nights, he ſet them in a good Garden Soil, againſt a Wall full expoſed to the Sun, on the 27th of the ſame Month, after a rainy Night, with a Pea, Wheat, Barley, and Oat unſteep'd.

On the 10th of *April* the Pea, Barley, and Wheat ſteep'd in the *Brimſtone* Water all were up together.

The Pea in *Allom* Water ſwell'd, but did not ſprout; but the others ſteep'd in the ſame, were above ground.

The Pea in Solut. of *Sal Tart.* half came up; the Wheat ſcarce ſprouted, but the Barley and Oat quite up.

The Grains ſteep'd in *Cap. Mort.* of *Sal. Armoniac* diſſolved in Urine were all up together; as alſo the others that were ſteep'd in Solution of Salt of Walls. The Pea and Wheat in the Diſſolution of Nitre were about half up, the Barley and Oat quite up.

The Barley and Oat ſteep'd in Urine, were come up, but the Pea and Wheat ſcarce ſprouted.

From whence the Gentleman that firſt made the Tryal, who was Monſ. *de la Prime*, obſerves, that *Allom* Water is not agreeable to the Nature of Peas, and retards their Growth; becauſe the Pea unſteep'd was up as ſoon as any of the other Grains: and that Salt of *Tartar* is not friendly to Peas or Wheat; but is concordant to the Nature of Oats

Oats and Barley. He further obſerves, that the Wheat, Barley, and Oat unſteep'd, were up as ſoon as any of the reſt; ſo that he concludes, ſuch Brines as he uſed, rather retarded ſome of the Grains, ſteep'd in them, in point of quickneſs of growth, than brought them forward: but then he remarks, that three Spires of the Barley which he left to grow, at a foot, or two foot diſtance, increaſed ſo exceedingly, that one had 60, another 65, and the other 67 Stalks a-piece from their ſingle Grain or Root, with every one an Ear on, and about 40, or more, Grains a-piece on them.

Digby mentions a Plant of Barley, that by ſteeping firſt the Grain in Salt-Petre, diſſolved in Water, and keeping the Plant watered with the ſame kind of Mixture, brought forth 249 Stalks, and above 18000 Grains.

A prepared Liquor to ſteep BARLEY, *&c. for* SOWING.

TAKE a quantity of the Grain you are to ſow, a Buſhel, more or leſs, and boil it in a Copper (to a Buſhel put five Pails-full of Water) till the Grain burſts, and the Water thereby becomes impregnated with the eſſential Salt of ſuch Grain; ſtrain your Liquor, and give the Corn to the

Poultry, that there may be no waſte. While the Liquor is hot, put three Pounds of Nitre, that it may diſſolve, and add four or five Pails-full of Water which drains from the Dunghill, or Urine of any ſort. And in this prepared Liquor, ſteep the Grain about twenty-four Hours. Let the Liquor be four Inches above the Corn in the Fat, becauſe the Corn will ſwell and imbibe it. Then take the Grain, and let it dry in the Shade, or ſift Lime over it, which will dry it ſooner, and ſow one Third leſs than uſual, and you will aſſuredly find the benefit by twenty-fold; I having actually tried it with Barley, and had commonly thirty Ears from one Root. The Liquor that is left, will ſerve again with freſh addition, or is admirable to water a Garden. About three Pounds of Nitre, as above, is ſufficient for as much as will ſow an Acre or more, and what is left is ſtill the ſtronger by being the ground-work of the next addition of Nitre. You muſt pour your prepared Liquor warm upon the Corn, and ſtop all as cloſe as you can, for that cauſes the Salts to be put in Motion. Imbibe the Corn one Evening, and take it out to dry the next, and by Morning it will be fit to ſow; and at the ſame time you may prepare more Corn for the next Day, and ſo on till the Seaſon is over.

The Excellency of this Receipt is obvious in ſeveral Caſes. 1. It ſaves Seed. 2. It in

in ſome meaſure ſupplies the defect of full dreſſing the Land, by the Seed being full of Riches when ſown. 3. It produces a greater quantity than ordinary. Laſtly, By this ſteeping, the Grain will make its way out of the Ground, if Drought ſhould ſucceed; whereas that ſown dry, and eſpecially that which lies neareſt the Surface, will continue ſometimes till Midſummer, in a dry Summer, before it grows, and thereby often occaſions the loſs of great Part of the Crop: for when one Part is ripe, the other is green, at Harveſt, which was the very Caſe almoſt all over the Nation this laſt Summer 1731; and I was ſo fortunate as to ſow, for the firſt time, the Barley after this Receipt, which brought my Crop up more even than my Neighbours, to the admiration of the Beholders, and had more on an Acre than ever I had; I believe I may ſay, as much again.

A great Farmer by me urines his Wheat but once in three Years; alledging, that as he always ſows his own Seed, he thinks it ſufficiently often to retrieve it from any degeneracy that may accrue to it, by ſowing it naked and unbrined two Years together.

Barley.

THIS Grain is much ſowed in *Hertfordſhire*, and chiefly about *Baldock*, *Hitchen*, *Royſton* and *Ware*, by reaſon of

the great conveniency of Water-Carriage from the latter to *London*; and alſo for the Swell which the Water cauſes in the Meaſure. There are but two Sorts generally ſown here, that is, the common Barley, and the rath-ripe Barley, which latter commonly is ripe with the Wheat, and equally good with the other; and moſt of our curious Farmers hereabouts ſend their Waggons to *Fulham* to buy the ſame every third Year, it declining its virtue after twice ſowing.

Barley is a Grain that delights in a fine Tilth and a rich Soil, and will do as well with three Buſhels on an Acre, on ſuch Ground, as four Buſhels on a rough and ſour Soil. With this Grain many People ſow Clover, which generally gets a-head, and keeps down the Barley, even to the loſs of ſometimes half a Crop, eſpecially in a wet Seaſon. Now the ſafeſt way, that I have experienced, is to ſow Clover on Barley, about a Fortnight or three Weeks after, and roll it in about twelve or ſixteen Pounds to an Acre, according as the Ground is more or leſs in Heart, and of a Nature for it; for by this Means ſome part of the ſevere Weather is paſt, and the Clover ſomewhat ſheltered from the Froſt and Sun. At *Dagnal* a Man that has but one Acre of Land, has ſown it ſeven Years together, and never leſs than five Quarters and an half of Barley grew

grew on the ſame. Another that folded on his Turnips, had nine Quarters on five Roods of gravelly loamy Ground.

To make Ground ready for Barley, after Wheat, I ploughed the Wheat-Stitch into four-thorough'd Lands, preſently after Harveſt; let it lie all Winter, and in *January* bouted it up: In *March* I bouted it down again, and harrowed it, then ploughed it into broad Lands, and ſowed my Barley; this was on a wet Loam, and it proved a Tilth as fine as a Garden, being a dry *March.*

Again, to ſow Barley after Turnips, the Way that is practiſed here, is to run a row of Hurdles croſs a Field, the out-ſide of which may feed as many Sheep ſo fat as your Judgment will allow of; then every Night fold as many of your Store-Sheep on the Turnips, pecked up, as they will eat by Morning: this continue till the Field is finiſhed; then give it one ploughing, and harrow in your Barley. By this Method vaſt Crops have been obtained.

Some give the Ground two Ploughings, after the Turnips are eaten off, as believing it beſt: In this Caſe the firſt ſhould be as ſhallow as poſſible, and the ſecond a little deeper, which turns up again the Sheep's Dung for the Barley to root in. But there often happens a great misfortune by ſowing Turnips too early, in conſequence of which they ſoon become old; and this obliges the

Farmer to eat them off betimes in the Winter: for by the length of time between that and ſowing, and the frequent Rains together, much of the quinteſſence of the Sheep's Dung is loſt, and ſo deceives the Owner's Expectation; ſo that the beſt Cure for this latter Misfortune, is to plough the Ground as ſhallow as may be, as ſoon as the Turnips are eaten off, and the ſecond when you ſow as aboveſaid.

A Farmer that ſowed his white Ground with Barley, the latter end of *January*, had the beſt Crop in the Neighbourhood, for that he enjoyed the Rains, when theirs were overtaken with a dry Summer, and Miſt. Another ſowed his Barley on a Gravel, and loſt he believed 60 *l.* by being too late with his Seed, and ſo miſſed the Rains, and thereby his Crop. A good time in this County is reckoned the beginning of *March*.

Barley, by ſome, is ſowed to the quantity of five Buſhels on an Acre; and, as I heard one ſay, it ought to be ſo thick, that only an Awl could juſt be put between: for this is not like Wheat, which has a long time to gather; but both this and Oats being ſown on the Edge of warm Weather, muſt have head enough to ſhelter its Root from the too powerful influence of the Sun, or elſe ſuffer by Heat and Drought. Which plainly ſhows the excellency of this new Method of ſteeping Barley, that cauſes it to get a head in a little time, and powerfully helps

helps it forward even in the moſt dry Weather: and in a cold wet Time in the Spring, this Way is moſt ſerviceable, becauſe the ſaline Particles of the Ingredients being of a warm Nature, enable it much better to withſtand thoſe Severities.

Some there are that roll their Barley when they ſow it; but that is wrong, for by rolling it after it is up, it is new earthed, and grows the faſter. Although too late rolling is juſtly condemned; becauſe it is apt to break the Blade, when it is too long.

After a Crop of Barley was got off, the Ground (which a little before, had been an Orchard) was ploughed up, and Turnips ſowed thereon; which proved an extraordinary good Crop. Others have ſown Beans amongſt their Barley, in order to keep them up, in caſe it ſhould be too rank; but this has its inconveniency: for the Beans are ſeldom ſo ripe and dry as the Barley when it is mowed, therefore is apt to damp it; ſo that it muſt be longer in the Mow before it is thraſhed.

Barley is commonly up in a Week after it is ſown, and it is a late practice about us to carry it to the Mill, and have it juſt broke for our Plough-Horſes: And it is the Opinion of ſeveral that have tried it as well as my ſelf, that it is more hearty than Oats. Their Price of grinding at the Water-Mill, at *Great Barkhamſtead*, is 3 *d. per* Buſhel, and

take no Toll. The conveniency of this, is, when Barley is about 14 *s. per* Quarter.

Amongſt the ſeveral Methods that I have practiſed in dreſſing of Barley-Ground, I do not approve of laying long Litter, or Dung, on the top of new-ſown Barley, on no ſort of Ground; for that if dry Weather ſucceeds, then it lies, heats, and parches the Roots; and if wet, it has not time to waſh in and rot, becauſe it lies not a great while; and when the Barley is draft-raked, part of the Dung rakes up with it: ſo that I conclude, it is beſt ploughed in with Barley, and there, between the Mold, it will retain the wet, and rot quickly. But I do not diſallow it on Wheat, for there it's right, by reaſon it has a longer time to rot and waſh in, and then there is no occaſion for the Rake.

Alſo Pidgeons-Dung, Hens-Dung, and Rabbits-Dung, are harrowed in with the Barley, becauſe it has been proved to be much better than ſowing, and leaves them on the top of the Ground, where they will remain if dry Weather ſucceed; whereas by incorporating them with the Earth and Seed, the latter has a more immediate benefit of their Salts.

OATS are a very profitable and neceſſary Grain in moſt Parts of *England*; they are the principal Grain Horſes affect, and commended for that uſe above any other, being of an opening nature, and ſweet; other Grains being apt to ſtop, which is injurious to labouring and traveling Horſes; although, on the other hand, Oats newly houſed and thraſhed before they have ſweated in the Mow, or be otherwiſe thoroughly dried, are too laxative. On ſuch Lands, as by reaſon of the cold, no other Grain will thrive, yet Oats grow there plentifully; as many Places in *Wales* and *Derbyſhire* can witneſs. There is no Ground too rich nor too poor, too hot, nor too cold for them; they ſpeed better than other Grain in a wet Harveſt, the Straw and Husks being of ſo dry a Nature, that although they are houſed wet, yet will they not heat in the Mow, nor become mouldy, as other Grains uſually do; but they are ſuch a Pealer of the Ground, that I have heard a Gentleman ſay, who owned a fine Eſtate in *Bucks*, that he would never ſuffer an Oat to grow on his Ground, for that very Reaſon; and of the two, the white Oat is the greater Impoveriſher. The beſt Seaſon for ploughing of Wheat-Stubble up, or other Ground for them, is in *January*;

nuary, and for ſowing and harrowing them on the ſame broad Lands, is in *February* and *March*. The white Oat is the beſt and heavieſt Grain, and has this good Property belonging to it; that in caſe your Pea, Bean, or Barley-Crop ſhould miſs, then this ſort of Oat will often do very well, though ſown in *April* and *May*. And for this reaſon I have known this ſort of Oat kept by way of Reſerve, in order to ſow after the before mentioned, if they ſhould fail. Again, this white Oat is preferable to the other, on account of its large and more ſpreading Blades, with which they cover and ſhelter their Roots, and the Ground about them; ſo that Clover ſown amongſt theſe, has much the better chance of taking the Ground, and becoming a good Crop. The Meal of them makes good Bread, and is much uſed for that purpoſe, in many Places, and alſo good Pottage, and ſeveral other Meſſes, and is in great Requeſt towards *Scotland* and *Wales*. Oaten Malt alſo makes good Beer. But the black Oat makes the beſt Oat-meal.

I am informed there is a new ſort of Oat growing like unto whole Oat-meal, and is in great Requeſt about *Durham*, where they have been yearly ſown above theſe fifty Years; after they are ſown, they come up like Oats, but with a ſmaller Blade: when they are ripe upon the Ground, they are like Oats, and not eaſily diſtinguiſhable from them;

them; the greateſt difference between them being, that in the thraſhing, theſe came out of the Husks clean, like unto *Dantzick* Rye, which this very much reſembles both in ſhape and bigneſs; and need not be carried to the Mill, as other Oats, to be made into Oat-meal or Grouts. The Taſte of them is more ſweet and flaſhy than Grouts made of common Oats. They are moſt naturally boiled, as Rice in Milk. An Acre doth not yield ſo many Buſhels of theſe, as of common Oats, by reaſon the Grain is ſmall and naked, and ſo near in meaſure, that what is wanting in Meaſure, is ſupplied in the Value. The Husbandry uſed about them is the ſame as with other Oats.

Bullimon is Oats and Peaſe, or Oats, Peas, and Vetches, or Peas harrowed in together; which produces good Horſe-Meat, and being a mixed Grain, the Crop becomes more certain. The Quantity together is about four Buſhels on an Acre. Some ſow Oats and Beans, which does well, for they are eaſily ſeparated after being thraſhed.

Oats are a Grain that Poultry alſo love to feed on, and it makes them lay ſtore of Eggs above what other Grain doth. The Land on which Oats is to be ſown, needs only one ploughing, into broad Lands, and harrowed in; but in caſe Clover is to be ſown with them, the Ground ought to be brought into a fine Tilth by two or three Ploughings.

The

The quantity of Seed ſhould be three Buſhels, if Clover is ſowed amongſt them, and four without it: and I think the beſt way is to ſow the Clover, or other Graſs-Seeds, a Fortnight or three Weeks after the Oats; *i. e.* when you roll them; for the benefit is the ſame with this Grain as with Barley, or Peas. Becauſe by this Method it will come up later than the Oats, which by conſequence will keep it under; whereas in a dripping Year I have known the Clover grow ſo faſt, as to keep under the Oats, Barley, or Peas.

Buck, Brank, *or* French-Wheat,

IS a Grain exceeding advantageous on barren ſandy Ground. It is much ſown in *Surry*; much leſs ſows an Acre of this Grain than of any other, even one Buſhel has been found to be ſufficient. It is uſually ſown as Barley, but later; it is alſo ripe late, and yields a very great encreaſe, and is excellent Food for Swine, Poultry, *&c.* After it is mow'd, it muſt lie ſeveral Days, till the Stalks be withered, before it be houſed, neither is there any danger of the Seed falling from it; nor doth it ſuffer much by wet.

Buck-Wheat makes a good Lay for Wheat, as any other Grain or Pulſe, eſpecially if it be not mowed, but ploughed in. But the beſt

beſt way is, when it is in Graſs, before it bloſſom, to feed it with Milch-Cows, who will tread it down, and make an excellent Lay for Wheat. Moreover, poor Cows will give great ſtore of Milk, it happening at that Seaſon when uſually other Graſſes are burnt up, in a dry hot Summer; ſo have you a double Advantage by your Buck-Wheat.

A Gentleman in *Suſſex* ſaid, he ſowed the Buck-Wheat the *May* before he intended to lay down his Land with Lucern, which Buck-Wheat he ploughed in, and the next Year he had ſuch a Crop of Lucern that he was amazed at it. Vetches, and even Turnips, no doubt, ſowed with this view, and ploughed in, would do extreamly well. And as *French*-Wheat will grow on the pooreſt Land you have, a better Piece of Husbandry cannot be; for it is the greateſt Improver of poor ſandy Ground, and the beſt Preparation for Lucern-Graſs, which loves to be ſown on this ſort of Ground.

This *French*-Wheat, when ſowed to dreſs the Ground, muſt have a fine Tilth, and be ſown in *May*; and when it is knee-high, about the firſt of *Auguſt*, and in full Bloom, roll it well, then plough it in, in broad Lands. When this is done, there will ſome appear above Ground, between the Furrows that the Plough did not cover. This muſt be ſtruck down with an Iron Inſtrument, like a Paddle or Paring-Shovel, and ſo let it lie three

three Weeks or a Month. In this time it will ſmoak, ſo as to be ſeen a great way, like a Dung-hill; and as it is a green dreſſing, will quickly rot in the Ground. The next thing is to harrow it; then plough and ſow Wheat in broad Lands, under thorough, as the Vale-Men do. This Way will dreſs the Ground for three Years, when Clover, Thetches, or Turnips ploughed in, will but for half the time.

It is generally ſold at the Seed-Shops, in *London*, for about half a Crown a Buſhel; of a triangular Shape, like the Kernel of Beech-Maſt, and about half its bigneſs.

Buck-Wheat either ground and made into Paſte, or whole, (the former Way is better) is the beſt ſingle fatner of Fowl, and with this Food they will lay more Eggs than with any other ſort of Grain; Hemp-Seed, as they ſay, giving an ill ſavour to the Fleſh of the Bird; but this only upon Report: if it prove otherwiſe, it would be one great Encouragement to the planting and ſowing of Hemp, that the Seed ſhould be of ſo great uſe.

Objection. It is ſaid to rot Horſes, Cows, and other Beaſts, if fed too long on it. Otherways, it is ſaid to be one of the quickeſt Fatners that is.

Anſwer. If given for ſome time conſtantly, and in large quantities, it may be of ill conſequence, and rot the Beaſt; but this I ſhould

ſhould think might be prevented by giving other Meat amongſt it, or ſometimes one ſort, and ſometimes another; as Brewers do by their Grains, mix ſometimes Salt with them, to prevent their rotting the Horſe; and alſo by mixing Bran with them.

RYE,

IS a Grain generally known, and delights in a dry warm Land, and will grow in moſt ſorts of Land, ſo that the Earth be well tempered and looſe; it needeth not ſo rich a Ground, nor ſo much Care nor Coſt beſtowed thereon, as doth the Wheat, only it muſt be ſown in a dry Time, for Rain ſoon drowns it. They uſually ſay a Shower of Rain will drown it in the Hopper, wet is ſo great an Enemy to it; therefore dry, gravelly, or warm Land is uſually termed Rye-Land, being more proper for that than for any other ſort of Grain. It is quick of Growth, ſoon up after it is ſown, and ſooner in the Ear, uſually in *April*, and alſo ſooner ripe than other Grain; yet, in ſome Places, it is uſual to ſow Wheat and Rye mixed together: but the Rye muſt needs be ripe before the Wheat; neither can I diſcover where a greater Advantage lies in ſowing them together, than in ſowing them apart. The principal Seaſon of ſowing Rye is in *Autumn*, about *September*, and after, according

according as the Seaſon permits, and the Nature of the Ground requires. And in this Country it is frequently ſown at this Time, for the feeding of Sheep early in the Spring.

Rye, its general uſe is for Bread, either of itſelf, or mixed with Wheat; it makes Bread moiſt, and gives it a very pleaſant Taſte to moſt Appetites. It is alſo reported, that it yields great ſtore of Spirits, or *Aqua-vitæ*.

Peas *and* Beans.

OF all Pulſes that are ſown or propagated, Peas claim the pre-eminence, not only for their general uſe, both by Sea and Land, both for Man and Horſe, but alſo for the diverſity of their Kinds almoſt for any ſort of Land; and for every Seaſon, a different ſort of Peas; ſome are white, ſome grey, green, *&c.* not neceſſary here to be enumerated, every underſtanding Husbandman knowing what Sorts beſt thrive with his Land. In a ſtiff fertile Ground they yield a very conſiderable Crop, without much frequent Fallowings, as other Grain require, and deſtroy the Weeds, and fit and prepare the Land for an After-Crop; being an Improver, and not an Impoveriſher, of Land, as Husbandmen uſually obſerve. Thus far *Worlidge* has wrote on Peas; but how far ſhort of the true practical Method, will appear by what follows, *viz.*

Here we ſow the Maple-Pea, which is a large Pea of a Hazle Colour, and a ſweetiſh Taſte, much loved by the Swine, and ſeveral of our Farmers keep wholly to this ſort, as finding by it the beſt Succeſs. They are often ſowed on the Wheat-ſtitch, by ſtraining them in after the Plough, about the firſt of *March*, and in quantity about four Buſhels to an Acre, and I have found them to grow very well on both gravelly and loamy Grounds. Others ſow the *Windſor* and Horn Grey-Peas, as finding them to be the moſt hardy: therefore ſow them in *January* and *February*, nay ſometimes at *Chriſtmas*, upon your chalky Ground. Others again ſow the *Dutch*-Admiral-Pea, which is a large whitteriſh Pea, and ſucceeds well, chiefly in moiſt Ground. But nothing is ſo much a Friend to the Pea as Chalk; and at *Kenſworth*, by *Dunſtable*, a few Years ſince, they knew nothing of the Benefit of it as to Peas, till a Farmer from another Place came among them, went to chalking, and kept a great Flock of Sheep at the ſame time, by which he obtained vaſt Crops; and his Method is now purſued, for it keeps the Roots dry and warm, and prevents the Ground binding them in; which often is done, eſpecially when great Rains preſently ſucceed their ſowing, and that particularly on Gravels; and for that Reaſon we are obliged to ſow the Pea ſo much the ſhallower.

A great Farmer by me, moſtly gives his Ground two ploughings, if not three, for Peas, and ſays, he finds this the beſt way; *i. e.* he firſt bouted the Wheat-ſtitch, afterwards back-bouted it, and harrowed down. Upon this Ground he ſowed half his Peas, by broad caſting, and ploughed them in under thorough. When this was done, he ſowed the other half upon the Ground, and harrowed them in. This is allowed to be the ſureſt Way; for if one miſſes, the other hits. Again, by bringing the Earth into a Tilth, the Ground is looſened to let them out, the Weeds are ſome killed, and moſt check'd, and the Peas, thereby growing the faſter, overcome them, and keep the Ground moiſt and hollow, and in a Tilth, againſt the next Wheat Crop; which often is ſown as ſoon as the Peas are off. And indeed, where there happens to be a good Crop of Peas, there is no fear of a good Crop of Wheat after, if the Ground be but dreſſed. This Farmer, they ſay, had about 100*l.* with his Wife, and laid it out moſtly in chalking the Ground, and, though ſeveral Years ago, has great Crops every Year.

Some get a forward Crop by ſowing the *Eſſex Reading*-Pea, and ſelling them in Peaſcods, and then ſow Turnips; after that, Wheat, or Barley: a very good Way, and is more and more in practice about us, on the warm and dry Grounds.

But

But above all Methods, I know of none that comes up to that made uſe of by a *Penly* Farmer, who rents about 300*l.* a Year, and was the firſt that brought the Method into theſe Parts, from *Berkſhire.* The Way I have practiſed, and got after the Rate of nine Buſhel for ſowing one of blue Peas in a moiſt, flat, loamy Ground. Firſt, they plough the Wheat-ſtitch acroſs, into large Furrows; afterwards, about *Chriſtmas*, they harrow it down; then, in the Spring, they plough it the contrary Way, into broad Lands; and as they plough it, at about two or three Foot diſtance, a Man follows, and ſtrains in Peas, in Furrows that the Plough makes, which is covered after by the Harrows; ſo that here is but two ploughings, in all, after Wheat. Then, when the Peas are up, about four Inches, hoe for the firſt time; and when about ten Inches high, hoe them a ſecond time, which two hoeings are performed here for 2 *s.* 6 *d.* each time. By this Way your Pea-roots, are ſecured againſt the Summer Drought, the Ground kept hollow, and in a pure Tilth, and the Weeds ſo deſtroyed, that it is ready for Wheat, at the next Seaſon, beſides having generally vaſt Crops when your Neighbours fall ſhort. His Peas are called by the Name of Poplar that he generally ſows in the drilling Way, and are of a large Sort. Another, of late, ſows Horſe-Beans and Horn Grey-Peas

mixed together in Drills, and hoes them; and I am of opinion, that any ſort of Pea will beſt encreaſe in this faſhion.

Horſe-Beans are generally ſown about *Candlemas*-Day, either in Stitches or broad Lands, on one ploughing, and harrowed in, and theſe chiefly on the wettiſh Loams; and being more hardy than Peas, ſucceed where Peas will not, and are often ſown together, becauſe the Beans will help to keep up the Peas.

Beans are more ſown in the Vale of *Aylesbury* than in this our chiltern Country, becauſe their Land being a black clayey Mould, produces vaſt Crops, which they generally ſow for their *Lent* Grain, all under thorough, and harrow down as they do their Wheat: And alſo for the great conveniency they enjoy in ſubſiſting their Sheep in ſome meaſure with the Weeds that grow among them, which the Sheep will eat and cull, without prejudice to the Stalk, till they bloſſom; but the Dolphin-Fly I have known one Year almoſt deſtroy them, and another Enemy as bad, is the hairy Bind which ſo twiſts about the Stalk, as to hinder it from growing. This Horſe-Bean will not do in Sands, or Gravels, nor in light Grounds. They are alſo proper to be ſown on Land, at the firſt breaking up, where you intend to ſow afterwards other Grain; becauſe they deſtroy the Weeds, and cauſe the

the Ground to be hollow, and ſo fit it for following Crops of other Grain; and are on ſuch Land, in ſome Parts, ſet by poor People, which ſaves Seed, and they come the truer. This ſort of Improvement belongs to all Cod-Ware.

The *Citch* and *Vetch*, whereof there are ſeveral Sorts, but two of moſt principal Note, the Winter and the Summer Vetch, though one ſown before Winter, and abiding the extremity of the Weather; the other not ſo hardy, and ſown in the Spring; are much ſown in ſome Places, to a very conſiderable Advantage. They are good, ſtrong and nouriſhing Food for Cattle, either given in Straw, or without, and are propagated after the manner of Peas.

Tares are not uſual in moſt Places of *England*; but where they are ſown, they as much benefit the Land as other Pulſes, and are to be preferred for Fodder, and feeding of Pidgeons.

A certain Author affirms, that if Peas be taken and ſteeped in as much Water as will cover them, till they ſwell and come, and be ſo ordered as Barley is for malting, only with this difference, that for this Work, if they ſprout twice as much as Barley doth in malting it is the better; the Peas thus ſprouted, if beaten ſmall, which is eaſily done, they being ſo tender, put into a Veſſel, and ſtop'd with a Bung and Rag, as

uſual, theſe will ferment, and after two, three, or four Months, if diſtilled, will really perform what before was promiſed; and of one Buſhel of Peas may be extracted two Gallons of *Aqua-vitæ*, as ſtrong as Anniſeed-Water, uſually ſold in *London*. And thus a Spirit may be got from Rye, Oats, and ſuch inferior Grain; alſo Roots, Berries, Seeds, *&c.* which are not oily. Alſo that the Spirit, or *Aqua-vitæ*, made out of Grain not dried into Malt, is more pleaſant than other; but I confeſs, I am not a Judge of the certainty hereof. Beans are now more in requeſt in the Chiltern than ever; for in the wet Loam, where Peas generally fail by the Water and Cold, there Beans will better anſwer. Beans are ſown on the Wheat-ſtitch on only one ploughing; for if the Ground was oftner ploughed, the Bean would be apt to fall; and ſometimes they are ſown in broad Lands on one ploughing: and my Neighbour had ſuch a Crop, on a Wheat-ſtitch, on a loamy Gravel, that he was forced to reap and bind them, but his Ground was in very good Heart. Now in the Vale, where there are no Stones, they mow them very cloſe, and after the Mower a Man follows and wads them; but we in the Chiltern cannot mow them ſo cloſe by reaſon of the Stones: therefore in a dry Year, when the Beans are ſhort, they have the advantage of us. Neither Wet nor Cold hurts us in the Chiltern, as

to our Beans, unleſs a very ſevere Froſt happens, when by the former, they often ſuffer in the Vale, becauſe they lie ſo low to us. Now, beſides the hale, hell, or hairy Bind, as ſome call it, that often ſpoils both Bean and Pea, both in Chiltern and Vale; there are ſeveral others that are fatal or pernicious, as that called here Langley-Beef. This I cannot ſay will utterly deſtroy the Pea-Crop, but will ſo cripple it, as not to be a quarter Value. It comes up thick, and blows like a Sow-Thiſtle, that when the Peas are mowed, or hooked, the Weed generally diſturbs the Workmen with its Flew, or Down, that they are forced to drink much; and what is very particular, this Weed comes perhaps but once in a Man's Life, and ſometimes often, ſo that the Farmers are at a loſs to account for it; but it is remarkable, that it never hurts the Bean. Again, another Weed is the Curlock, which when thick, often deſtroys the Crop of Peas, and this takes them in a Tilth, or not a Tilth; and ſome ſay, it is cauſed by Seed being mixed among Turnip-Seed: but this hurts not the Bean.

Another is a Weed called by us Cat's-Tail, with a blue Flower. This comes but once in three Years, roots like a Dock, and runs deep, which hurts all Grain it runs amongſt, but it is hardly any where except in light, gravelly, chalky Grounds, as about

Dunſtable, &c. Here indeed we have a green Sort, but does little harm.

Beans are ſaid to deſtroy the Twitch-Graſs even of themſelves; but I cannot ſay they are proper to ſow Clover amongſt, becauſe the Sheep and Lambs, that feed among them, even till the Bloſſom comes, may poſſibly pull up the young Clover, and ſo ſpoil it; nor may they be ſown on a Tilth, for the Reaſons aforeſaid.

A Farmer ſowed five Buſhels of Beans amongſt his Peas and Thetches, on one ploughing of the Wheat-ſtitch, in a very dry time; the Peas and Thetches failed, but the Beans ſtood it, and he had 20 Load, or 100 Buſhels on three Acres of Ground. This happened on a loamy Soil.

Winter-Thetches are ſown about *Michaelmas*, in warm, light, gravelly Chalk or Sand, and by their great burthen of Haulm and Grain, they ſo kill the Weeds, and ſweeten and hollow the Earth, as to make it a fine Tilth for Wheat; which very much delights to follow theſe, or Peas. This has encouraged ſeveral Farmers to continue the ſowing of the Winter-Thetch, as being more ſucceſsful in this hardy Grain than either in Peas or Beans.

The Fin on the Share of the Plough is of great ſervice, in the ſowing of Peas, Thetches, or Beans, becauſe by the help of it, the Ground may be ploughed much the thinner,

thinner, and the Harrows will the eaſier let out the Peas, Thetches or Beans that are ſown under thorough.

And ſowing ſome under thorough and ſome above, as I ſaid before, is the beſt way of all, in all ſorts of Grounds.

In the Vale they hold it as a Maxim, that if they can get a good crop of Oats, they are ſure the next time they ſow Lent-grain, to have a good crop of Beans; which I ſuppoſe happens by ſowing the ground with different Seed.

GRASSES.

THE vaſt Improvements that are made by ſowing Land with Graſs-ſeeds, doth more and more encourage the uſe thereof, and eſpecially that of Clover, which daily obtains a ſingular eſteem amongſt the Chiltern Farmers; becauſe the late method of harrowing in Grain after it upon only one ploughing, does ſave a great expence and time, and produce large crops; and the ſeveral ſorts of Graſs are all moſt requiſite to be ſown on ſuch Lands as are fit for them: for there are many Farms in this Country that have not any Meadow wet or dry belonging to them, that may by the help of theſe Graſſes be able to make Hay enough of their own, without fetching it at a dear price many miles from home. And many dry

dry Farms are ſo improved at this time, that it has reduced the price of Meadow-land in many places; and the value of them has in ſome places been raiſed very conſiderably.

Clover-Graſs hath been the name a great while, both for the great improvement it brings by its prodigious burthen, as alſo for its excellent ſweetneſs both in Graſs and Hay, and the riches with which it impregnates the Ground by the Stalk and Root; the former by receiving the nitrous Dews, which deſcend by them to the Roots and Ground about them; the latter alſo affords a ſort of dreſſing to the Ground after 'tis ploughed up, and above all ſaves that great expence which many have been yearly at for weeding their Ground; which is by this Graſs entirely got, and alſo the damage prevented that the Corn generally ſuſtains by the Weeders treading amongſt it: ſo that it may be depended on, nothing better clears the Ground of trumpery and weeds than a good Crop of Clover, as I have often experienced.

The late practice with us is to ſow Clover but for one year, and feed it with our Sheep by way of baiting them; that is, about four or five we let them out of the Fold in the Summer-mornings, then feed them on the Common till about nine or ten, when we bait them in the Clover an hour or two, ſo fold them about twelve, and let them

them out on the Common about three in the Afternoon, and ſo bait again at night in the Clover. This way may be practiſed where the Common is nigh, and good Clover to bait them with. Then about a fortnight before *Michaelmas*, on one ploughing we ſow our Wheat in Broad-lands; but this way will not do often without Chalking, Limeing or Turneping the Land, or Fallowing, becauſe that Clover lying but one year, ſours the Ground more than if it had lain two or three years down, which then rather ſweetens and enriches it. Now by chalking the Land it hollows, ſweetens, and keeps it dry and warm, and ſo prevents in ſome meaſure the Ground being ſoured, clung and heavy. And it is certain that the ſecond Summer's Crop is not near ſo good as the firſt; but to make it anſwer, the beſt way is to dung it, or to dreſs it with ſtreet-dirt, mud, ſoot, or aſhes: this alſo prepares it the better for the next ſucceeding Corn-crop, which is alſo much help'd by the Chalk, eſpecially in wet loamy Land; ſo that Ground will be a Tilth, and ſweeten better by one ploughing, than with two or three, if there had been no Chalk.

Clover is often ploughed in to dreſs the Land about the beginning of *Auguſt*, before it comes to ſeed, and you may turn in ſome fatning Cattle to eat the head of it; in this caſe, about twelve pounds ſhould be

ſown on an Acre. The longer the Clover is, the better when ploughed in; or if you will, you may roll it, in order to the more eaſy ploughing it into the ground; this being green, will ſoon rot, and after ſome rain has fell on it, harrow in your Wheat. If the Ground lies even, you need only harrow the Wheat in at once; but if uneven, then harrow the Ground once before you ſow, and when ſowed, harrow two or three times long-ways, and once acroſs; and if that won't do, harrow twice overthwart: they ſeldom dreſs on this; only drive a Flock of Sheep over it, to tread it in.

Again, Clover mowed, according to ſome opinions, will produce as good or better Crop than that which is fed; the reaſon aſſigned is this, becauſe the Cattle that feeds on Clover, always bites the ſweet, and leaves the ſour part, taking care not to dung or ſtale where they bite, but on the ſour part; ſo that there when the Corn is up, 'tis generally in Tuſſocks. Clover, if fed cloſe, is ſometimes ſpoiled by the Cattle's biting through the knot juſt within the Ground, which hinders its Growth afterwards: nor will a careful Farmer let his Clover be fed late in Winter; ſo have they the earlier and better Crop the following Spring.

To have a Crop of Clover, take under Peas: The way is to get the Land ploughed twice

twice or thrice in Winter, ſo that it may be got into a Tilth by Spring, (for it is mere folly to ſow Clover without a fine Tilth.) Then at the ſame time you ſow your Peas on broad Lands, harrow in your Clover twelve pounds on an Acre, and by this means you have this chance, that if you have a great Crop of Peas, perhaps they may ſmother and kill the Clover; but if a middling or poor Crop, then have you a good Crop of Clover. And this preſent Year 1731, I had a pretty Crop of both Peas and Graſs; the Peas were Horn Grey and Maples, with a few Horſe-beans mixed amongſt them; and the Graſs-ſeed was ſix Pounds of Clover, and a Buſhel of Trefoil-ſeed in Husk ſowed on an Acre. Clover amongſt Barley or Oats muſt not be ſown till after two or three Weeks, that the Corn in that time may get a head, then ſow from ſix to fifteen pounds on an Acre. The finer your Tilth, the leſs Seed will do; this is an excellent way, becauſe the Barley or Oats will then keep the Clover under, ſhade its Roots, and prevent the Froſt and Sun hurting it, and alſo the Fly from eating it: whereas if you ſow Clover at the ſame time you ſow the Corn, and wet Weather preſently ſucceeds, it's in my opinion ten to one if it does not ſpoil the Crop of Corn by getting the maſtery of it, as it has done many a one for want of knowing this: immediately on the ſowing of the

Clover, roll it in, and it is ſufficient. Clover is beſt ſown amongſt blue Puffins, or other forward Peas, which being ſown late, even in *April*, they do not continue in the Ground long enough to choak the Clover. Clover, if fed the firſt year with Sheep, will be ſure to fail the ſecond year, for they ſo venom it by their bite, as to hinder its recovery, and thereby give opportunity to the growth of Twitch-Graſs and Weeds to ſupplant it.

Clover is beſt ſown amongſt Wheat in *April*, either on the Stitch or broad Lands, for theſe reaſons; firſt, becauſe this Month is generally attended with Showers, which helps the Clover to take root. Secondly, the Air being warmer than in the preceding Months, the Froſts and cold Weather have not that power to hurt and ſpoil the young Graſs. Thirdly, becauſe the Wheat being now high, and under a quick growth, ſhelters it the better from the ſeverities of the Weather. To know the true uſeful Seed of Clover, obſerve if there be a good quantity of the purple and brown-colour'd Seed amongſt it; for that ſhows the Ripeneſs of the Seed, when the white brighter-colour'd is that which was not come to its full maturity. When it is thorough ripe, and well got in, the Seed will hold good five or ſix years, as I have known a Farmer experience. Others again will buy half old and half new

new Seed, to be more ſure. It is ſown by ſome in *February* and *March* amongſt Peas, Barley, and Oats; but in *April* amongſt Wheat, as I ſaid before. If it is ſown to feed, it ſhould be thick; if to mow, thin.

Clover for Seed, muſt be mown the firſt Crop for Hay, then let the ſecond be mowed for Seed, which will all come even: whereas if the firſt is fed, there will be Tuſſocks left, and the Crop won't be true for Seed. Clover, if ſown for a Crop by itſelf, is more luxuriant than in the former caſes; and it may then be cut in ſome moiſt, rich Grounds three times in a Summer, and leave a rich Crop for Winter to feed Cattle before the Froſts come, (for that generally cuts it off.) We may judge of the right time for cutting it, by examining when it begins to knot, and then we may ſurely go to work, if the Weather be good; and the beſt way of making it Hay with us, is found to be thus: After it is mowed, put it up with the Fork or Rake in little ſeparate parcels, about the bigneſs of a Buſhel, then turn it bottom upwards ſeveral times, ſo that you never ſeparate it till it be carted home; by this means the Leaf is kept on, which otherwiſe would be moſtly loſt. And if we let it ſtand for Seed, we may make it in this manner: It muſt firſt ſtand till the heads are very brown and full ripe, known by rubbing them between your Hands. An Acre is ſaid

to

to afford two or three Buſhels, and is a Seed that is hard to get out by threſhing; therefore *March* is the beſt time for this work, when the dry Winds blow, and ſhould be let into the Barn as much as may be.

Clover is a Plant that will bloſſom, and bring ripe Seed the ſame year 'tis ſowed. Clover is ſaid to feed as many Cattle on one Acre, as three Acres of natural Graſs will do; and it fattens Cattle faſt, provided they are ſhifted. I know a Butcher by me that mowed an Acre and an half twice in one Summer, and had ten Two-Horſe Jogs off it. It is alſo related, that eight Acres has ſed twenty plough Horſes moſt part of the Summer; yet notwithſtanding theſe good properties, Clover has been fatal to others in hoveing many a good Cow and Sheep. One Man by me has loſt two Cows by it, and a third forced to be ſtabb'd with a Penknife into the ..... which is the laſt Remedy, and ſaved the Cow's life. And I myſelf loſt a very good Cow that was hoved in the Night. This put me upon enquiry for prevention *in futuro*; and amongſt the ſeveral Informations, I met with one that has anſwered my purpoſe for theſe ſix years paſt; *viz.*

The ſame day you intend to turn out, firſt give them as much Hay as they will eat; then directly put them into natural Graſs, and there feed them till they will eat

eat no longer; forthwith after this turn them into Clover.

By this method, the Cow having as it were glutted herſelf with two ſorts of Meat, is rendred uncapable of feeding in the Clover; but as her Belly empties, and her Hunger comes gradually on, ſhe feeds leiſurely, and ſo eſcapes being burſt with Wind, which a haſty belly-full of Clover generally occaſions. But here I muſt be particular. If after this the Drift is long, or that the Cow is kept too long out of the Clover, ſo that ſhe has time to empty herſelf, and become hungry; then I ſay, that this Receipt may become ineffectual, and expoſe her as if ſhe had never been managed. There are ſeveral ways that have been practiſed when a Cow is hoved; as to give her a quart of Butter-milk; another Remedy is to give her immediately ſome Urine, with a handful of Salt in the ſame, and drive her about. Another, that driving her haſtily will generally do alone: but the laſt Remedy, as I ſaid before, is, when ſhe is ſo ſwell'd as to fall, immediately to ſtab her.

Others, to prevent it, will, at the firſt turning in, give a Cow an Egg-ſhell full of Tar; others a red Herring (the Head and Tail cut off) dipt in Tar. One Farmer throughout the Summer ſet one to watch the Cows till they had their belly-

full, and then brought them out for ſeveral Hours.

Another turn'd them in for about half an Hour at firſt, then an Hour, and ſo gradually, till they thought the danger was over.

Others ſay, it is the only way to turn them in upon a ſhort bite, for then they ſay the Cow can't fill her belly ſo ſoon as to hove. As no Ground can be too rich for Clover, ſo can no one expect a good Crop without the Ground is in good heart; and for that very reaſon I take Barley Ground to be the beſt for Clover, as being dreſſed for that Grain, in particular when Oats, Peas, or other Pulſes are ſown without.

Clover, I am of opinion, is like other Seeds in the Ground, which being often ſucceſsfully ſown, by conſequence muſt tire it; and this I have heard aſſerted by an eminent Man, according to the Maxim amongſt us, That if Peas are ſown twice after Wheat or other Grain, tho' in ſix years time, there will be no Crop of value; for as change and variety is moſt natural in the vegetable Kingdom, ſo it is the Farmer's buſineſs to follow Nature in this point. But when Ground by often ſowing of Clover, is become clung and ſour, the beſt way is to plough it up the beginning of Winter into four-thorough'd Lands, or otherways, and get it into a fine Tilth the next Summer, and ſow it with Turnips. This Method will ſave the Charge of dreſſing the

the Land, your Crop more ſurely take, and the Turnips be more ſweet than if the Ground had been dung'd; then let a Crop of Barley follow them.

Clover-Seed being ſown in *April* or the beginning of *May* upon the Wheat-ſtitch, is by ſome rolled at the ſame time, to faſten it; but hereabouts it's generally ſown without it: for at this ſowing, ſays an Author, there is no need of covering the Clover-Seed, it being ſmall, and ſo ready for Vegetation, will find its way into the Ground; as we may obſerve in many other Seeds of the like nature, which will bury themſelves into the Earth they are laid upon, without help.

That ſix Acres of Clover by cutting and feeding Cattle in Racks, from the middle of *April* to the middle of *October* following, maintained thirteen Cows, ten Oxen, three Horſes, and twenty-ſix Hogs; which after the rate of 1 *s. per* Week for each Kine and Horſe, and 2 *d. per* Week for each Hog, comes to upwards of 30 *s.* a Week, or 40 *l.* for twenty-ſix Weeks: the Summer profit then of each Acre is 6 *l.* 13 *s.* 4 *d.* beſides the Latter-Math. Forty Pounds weight of Clover-Seed was ſowed on four Acres, which at twice mowing brought twelve Loads of Hay, and twenty Buſhels of Seed. The firſt Crop was mowed the 19th of *May*, the After-Paſture, as much as three times the Ground of common Graſs.

Alſo that at another time Clover was mowed twice in a Summer for Seed; but the laſt time it was beſt Seed.

Alſo, that Clover-Seed ſowed by itſelf is better than if ſowed with any other Seed or Grain.

On a great Crop of Peas, juſt before they were hooked, they ſowed Clover over them, which being ſtirred in by the Hooks ſtriking on the ſame, and the Men's feet, on a very hollow Earth, here became a ſpecial Crop; nor did the Severity of the next Winter hurt it.

This Clover-Graſs, as well as other Graſſes, is a friend both to Landlord and Tenant; as I heard one ſay who lived in a large Farm, that they could afford to pay more Rent, and yet live better than ever: For the Smith's Bill, Wheeler's Bill, Horſe-Meat, Man's Labour and Time are ſaved by harrowing in Wheat upon one ploughing up of a Clover-Lay. And indeed it is no wonder that the *Aylesbury*-Vale Men about forty Years ago (as I have been told) ſtrove with great might to ſuppreſs the ſowing of the Graſs in the Chiltern or hilly Country, and to that purpoſe diſputed it at Law with thoſe few, who at that time of day made uſe of it in the contiguous parts of *Hertfordſhire*; but the Defendants caſt them, by making it appear how great an Enricher it was to their poor Grounds. Now what raiſed the Envy of the Plaintiffs, was, that they

they apprehended it would ſink the Value of their Lands by lowering the price of Corn, Fleſh, Butter, *&c.* Nor are their Lands capable of this great Improver, nor of the Turnip, by reaſon they are chiefly common Fields, and of ſuch a deep hollow, marly and wettiſh Nature, that both the one and the other would be moſtly deſtroy'd by the Cattle's ſtolching; nor will they apple in their rank moiſt Grounds as with us, but rather run into Leaf.

Objection 1. Clover begins to leſſen in the eſteem of ſome of our Farmers, on account of that pernicious Quality it has of hoving Cows and Sheep; and therefore ſeveral, as well as my ſelf, have this Year laid our Grounds down with Clover and Trefoil mixed together, which prevents any damage from that quarter. *Object.* 2. It is alſo not ſo valuable ſown alone as with Trefoil, becauſe both theſe Graſſes are ſweetners of the Ground and killers of Weeds, and are more potent in anſwering their Ends when mixed, than if they were ſingle; the Trefoil being ſmaller leaved and ſtalked, and a greater Brancher, fills up thoſe vacancies which otherwiſe the Clover would miſs, and ſo leaves leſs room for Twitch Graſs and other Weeds to grow. *Object.* 3. That ſome make Butter and Cheeſe from Clover-Graſs, but neither is ſo good as from other

Graſſes; for the Cheeſe is apt to hove, and the Butter not ſo ſweet.

To this I anſwer, That Clover has theſe Inconveniences with it: But for Horſes, Hogs, Hay, or being ploughed in for Dreſſing, it has its Excellencies; and where there is a thick Crop of it, it will ſell on the Ground beyond moſt other Graſſes.

Rey-Grass.

THE Rey-Graſs when young, as in the Spring, is proper for the fatning of Horſes, and is of very great advantage for milch Cows, in that it cauſes abundance of Milk, making excellent Butter and Cheeſe, and is of great ſervice for Ews and Lambs, or to feed any larger Cattle in thoſe early Seaſons of the Year, eſpecially if the Spring be warm, and the Wet does not lie too long, and before Clover or other Graſſes come in, it being more quick than they: for in hot Weather, ſuch as in the Months of *June*, *July* and *Auguſt*, it grows harſh and dry, and is fit for nothing.

As for the Soil; Clay, or any other ſour and uncultivated Land, is proper for it, nor doth it take up ſo much Tillage as other Graſs-Seeds do, growing well amongſt the moſt ſtubborn Clods that lie in the way: on which account, where any Gentleman has any cold Lands, they can't be better em-

employ'd than in ſuch a way; it being always obſervable that thoſe Lands which are not fit for Clover, Saint-Foin, Treſoil, or other Graſſes, may be much improved by Rey-Graſs. It will laſt ſome Years, and what is of great moment, the feeding of Cattle is of mighty advantage to it, becauſe it will in the Spring ſuſtain double the Quantity that other Lands will do, Acre for Acre; but then it is of no manner of ſervice in Autumn, except it be a dripping one, or for Hay.

Being ſown in Autumn, it will be fit to graze the next Year for Horſes and other black Cattle, without danger of making it bleed.

If this Seed be ſown on Land entirely devoted to it, and on which in all probability no Corn, at leaſt but little will grow, then two Buſhels is the leaſt that can be ſowed there.

Upon the whole, tho' Rey-Graſs is an Herb proper to be ſown upon cold, coarſe, auſtere Ground only, yet I have often been ſorry to ſee it admitted into Lands which are warmer, and conſequently of too great a Value for it: for whoever would lay down any Land that is tolerably good, can't do it better than with the common Hay-Seed which comes from the fineſt upland Meadow, and a proportionable Quantity of Treſoil with it.

We here commonly ſow it mixed with Clover-Seed in the Spring, with Barley or Oats, thus: When the Grain has been harrowed in, then ſow the Graſs-Seed; if Rey-Graſs alone, then harrow in two Buſhels on an Acre; but if with Clover, then one Buſhel harrowed in as before, and about a fortnight after roll ſix pounds of Clover on an Acre.

Rey-Graſs ſeldom wants any aſſiſtance till after it has been ſown a Year or two; but when it does you may allow twenty or thirty Load of the ſhovelings of Streets, or Earth dug out of the High-way, and mix'd with ten or fifteen Load of Dung, and five or ſix of Sea-ſand, Lime, or Coal-aſhes. And this is indeed a ſolid Improvement for any of the Graſſes before or after mention'd. Some mix it with Fowls Dung, which adds very much to the fertility of Graſſes.

Objection. Many refuſe to ſow this Graſs on account of its being one of the greateſt Sourers of Ground; for by its ſtringy, tenacious Roots, it lays ſuch ſtrong hold of the Earth, that it thereby becomes clung, heavy and ſour. Secondly, It is a Graſs very hard to deſtroy, notwithſtanding the Ground is often ploughed.

To this I anſwer, That in clayey Grounds, or any other, this Graſs is moſt ſerviceable, becauſe early in the Spring, it may be fed before the Clover or Trefoil comes up, with which

which it is ſown; but certainly it is hard to clear the Ground of it. And to do it, I think the beſt way is to plough up the Ground, and give a Winter's, then a Summer's Tilth for two or three Months, and ſow Turnips. Gravels are eaſier clear'd of it then clayey Loams.

TREFOIL.

LAnds naturally kind for Corn, ſays a modern Author, and unkind for Graſs, are undoubtedly kind for Trefoil; and tho' it be much impoveriſhed by long ſowing, that it will bear Corn no longer, yet ſuch Land, being ſown with Trefoil-ſeed, will become worth 20 or 30 *s. per* Acre. As for the Soil in which it will grow, experience tells us, that even clayey, ſtiff Ground, or chalky, rocky, gravelly, or hilly Ground of a very ſmall value, may be improved by this Graſs: but if the Land be a Clay, that then it muſt be laid as dry as you poſſibly can: That the Paſture for Trefoil is as good and much better than any for Cattle, and eſpecially for Cows; for it will not only cauſe them to give more Milk in quantity, but alſo better in quality, and likewiſe makes Butter and Cheeſe of a delicate yellow colour: That the Hay thereof is nouriſhing, and will make Oxen or other Cattle as fat as any other Hay, if it be made

made in a good Seaſon, that is, whilſt it is full of yellow Bloſſoms, and not over-dry, (for it is ſoon made) it does not loſe its colour, nor ſhrink in the making, as Clover-graſs does; but is much finer, greener, and in all points better for Cattle than Clover is: That it is particularly good for fatning of Ews and Lambs, and free from breeding rottenneſs, which other Paſtures are apt to do. And whereas Clover-graſs doth daily make ſick, and kill many Cattle, this is free from any ſuch danger; and the Cattle are ſo ſenſible of it, that they will not willingly feed on the Clover until they have eat the Trefoil to the very Earth, as may be ſoon ſeen, if one half of the Field be ſown with one, and the other with the other: Therefore if you are reſolved to ſow Clover, the ſafeſt way is to mix one half of Trefoil with it. That, (in competition to Clover) Trefoil will endure much the longeſt, if it ſtand not for Seed; for that is deſtructive to the Root, and the Sap is gone that ſhould nouriſh it, becauſe it muſt be cut late, and in the heat of Summer. The next year after the Crop of Corn is taken off, you may paſture or mow it, but if it ſtand till the Seed is ripe, the Hay is ſpoiled, and the Cattle will not eat it. The time and manner of ſowing it, is, when you ſow Oats or Barley, which ſhould be done after the following manner: The Ground being ſowed and

and harrowed in with Corn, then ſow the Trefoil-Seed, and harrow it once in a place, and then roll it. Two Buſhels, if in the Hull, is often ſown on an Acre; but if the Seed is naked and clean, then ſow twelve pounds on an Acre, and only roll, and not harrow in: but if mix'd with Clover, then ſix pounds of each. The proper time of ſowing is from the middle of *March* to the latter end of *April.* I ſowed this year ſix pounds of Clover-ſeed and a Buſhel of Trefoil in the Hull on an Acre of Ground, and it cover'd it full thick: This was amongſt Barley.

Trefoil muſt be cut for Hay whilſt in bloſſom; it is ſoon made, and need not be dried ſo much as common Hay, or Clover. Oxen are greatly nouriſhed by it green, and by this Fodder they will grow fat in a ſhort time. Trefoil is of ſuch advantage to Land that is over-run with Twitch Graſs, that as it grows quickly and branches much, it will ſo overſhadow the Couch Graſs, that in a little time it will ſmother it. Again, this Graſs, no more than Clover, draws not any nouriſhment from the Earth, which is proper for Corn, as an Author writes; and being ploughed in when we have a mind to ſow Corn upon the ſame Ground, it makes a very good Manure, and prepares the Ground very properly for Corn. This, like Clover ploughed in when almoſt knee-high, is called

led half dreſſing, as *French* Wheat is whole, becauſe the latter manures the Ground for three years, and Clover and Trefoil but half the time.

This Trefoil has a peculiar quality belonging to it different from all other Graſſes that I know of, and what neither Authors in their Books, as I can find, nor Seedſmen in their Shop-Bills, take the leaſt notice of: And as it is of great advantage, I ſhall be the more particular. This Graſs then is ſown by itſelf either naked, or in the Hull, to the quantity aforeſaid. Now if the Trefoil is let grown to a good head before you turn in your Cattle, it's a great chance if ſo much does not eſcape their Mouths as to ſeed the Ground; for this ſort parts with its Seed ſooner and eaſier than any other.

Again, if it ſtands to be mown for Seed, then it ſurely leaves ſo much Seed behind on the Ground as will ſeed it next year, and thicker than before. But as there are two ways of preſerving its Seed by ſhedding, ſo there are as many to hinder it; for mowing it for Hay, and after that feeding it cloſe, prevents its taking the Ground for the next year. The other way is by giving the Ground only one ploughing in broad Lands latterly, and harrowing in Wheat. Again, this is to be remark'd, that the more you plough any Ground, and the finer Tilth you make for Wheat, the ſurer this Graſs comes the

the following year; and by this method it may be continued a great many years, that is, by having Wheat and Graſs for Seed or Food alternately; as one does at *Barkhamſtead* on a gravelly Ground, to his great profit, who is a Seedſman.

Trefoil is now in great vogue for its ſeveral good qualities, and is of late ſown with Clover-graſs, to prevent its hoving Cattle.

Object. Notwithſtanding what is publickly over and over again writ by ſome of the learned Gardeners, and others, in their Tracts of Husbandry and Farming, and alſo in the Seed-Shop Bills, that Clover and Trefoil draw their nouriſhment from the Earth in ſuch a different mode as not to offend the growth of the Grain among which it grows; I here aver the contrary, and which I can prove by ſeveral inſtances; *viz.* The Clover and Trefoil at firſt ſowing, with the Corn, muſt in its infancy draw its ſubſiſtence in the ſame manner as the Corn does, and from the very Earth that otherwiſe would be ſpent in nouriſhing the Grain, by reaſon they both at firſt take their growth from almoſt the ſurface, as they are harrowed in together; and afterwards as the Graſs-roots ſtrike their pecked or ſpreading Roots down, (which ſometimes deſcends to the depth of ſix or eight Inches) the uppermoſt Fibres have ſtill their proportion of Suction from the Ground

near

near the ſurface; which very Reaſon, by the help of frequent Rains in the Summer, has occaſion'd the loſs of vaſt quantities; nay, I may ſay near whole Crops of Corn. As a great Farmer at *Studham*, near me, ſuffered, he proteſted, the loſs of half his Crop of Barley by the Clover's luxuriant Growth. And in *Northchurch* Pariſh, upon a gravelly Soil, the Farmer mowed his Trefoil for Seed, then ploughed it into broad Lands; after that, hack'd or comb'd it, then ſowed it in Stitches. The Wheat thus ſowed on a fine Tilth, flouriſhed to admiration; but before the next Harveſt, the Trefoil grew ſo faſt, that it crippled the Wheat, and made it hardly worth reaping. And the very Perſon that ploughed the Ground on which the Wheat-crop was ſet that year, lives Ploughman at this time with the Duke of *Bridgewater*. And however ſome may ſucceed by letting Trefoil grow amongſt their Wheat, I am ſure they run a great riſque of loſing their Crop; and where they do ſucceed, it may be owing to the defectiveneſs of the Seed, a dry Summer, or that their Ground when ſowed with Wheat was clotty and ſouriſh, which impedes as much the growth of this Graſs, as a fine Tilth facilitates it. Now, therefore, the ſureſt way to be ſafe in obtaining this moſt ſerviceable Graſs, is to ſow and harrow it in with Barley in the Hull or Husk, which keeps it

from taking root longer than if ſown naked, by which means the Barley or Oats get the ſtart; or if ſown naked, then let it be a fortnight after the Barley is ſown, as is before mentioned. But ſeveral ſow it and harrow it in the Husk with Peas, as I did this year, and it took well: and I am of opinion, it is of ſuch a hardy nature, as not ſo ſoon to be ſmothered by the Pea-haulm, as Clover is.

Saint-Foin,

IS an extraordinary Improver of dry, gravelly, ſandy, chalky Grounds, even tho' they have been over-run with Heath, Ling, or Fern, or Brakes; for this takes deep root in the Ground, which being large, ſupports itſelf in the dryeſt, hotteſt Seaſon, and will produce a great burden when there is little Graſs to be had elſewhere. The moſt barren Land will produce this without much manuring, and that ſhould be Soot, about fifteen Buſhels on an Acre every third year; ſome put more, and ſeldomer; but that is wrong, as being an extreme: and when it has ſtood twenty or more years, the Ground will produce valuable Crops of Corn. In the ſowing this Seed, as well as all other foreign Graſſes, it muſt be obſerved, that the Ground be brought into a very fine Tilth

Tilth, elſe it will not anſwer. It is commonly ſown amongſt Oats or Barley, but the latter is beſt; and at the ſame time ſow your Soot over the Corn and Graſs-Seeds. The quantity of Saint-Foin Seed is at leaſt four Buſhels on an Acre, and the Barley three. But this ſort of Graſs-Seed muſt be harrowed in at the ſame time the Corn is harrowed; ſo that one harrowing will ſerve both, becauſe the Seed is large, and requires to be well covered. The greateſt care that is to be taken, is the not feeding it at all the firſt Summer, nor very early the next Spring, becauſe it will be apt to bleed itſelf to death: for the ſweetneſs is ſuch, that it will provoke Cattle to bite into the knot in the Ground, and ſo ſpoil it.

LUCERN-GRASS, *otherwiſe called* MEDIC-CLOVER, SNAIL-TREFOIL, *or* BURGUNDY-FODDER.

THIS Plant is a moſt valuable Graſs for its excellent quick growth and duration, and has raiſed ſome of the greateſt Improvements in *England.* It is of a ſucculent or juicy nature; it makes Cows abound in Milk more than any other Fodder, whether they eat it green or dry: Oxen are very ſpeedily fattened by it, and Horſes are no leſs advantaged by feeding on it. Its Crop for

for the moſt part is double the quantity of Saint-Foin, and may, if it likes the Ground, be mowed three times in a Summer. But let it grow where it will, it may bear two cuttings, the one in *May*, and the other in *Auguſt*, and carry a ſtrong Paſture for Winter.

The Soil moſt proper for it is light Ground, ſuch as Sand, Gravel, or Hazle Mould; or if the Ground be very ſtiff, then burn the Surface, which is called Denſhiring, and by that means the Soil will become fit for it: but it has been tried in ſtiff Soils and moiſt Land, and has ſucceeded very well; this has been done in my neighbourhood on a clayey bottom under the Mould on a cold Hill, and proved well; but on ſuch ſort of Ground it ſhould be ſown late, as in *April* or *May*.

When we make Hay of it, we muſt dry it well before we houſe it, and it ſhould be given to Cows, with Barley or Oat-Straw, like Clover. But certain it is, that ſandy, chalky, or gravelly Ground will beſt agree with this valuable Graſs, when it is well till'd; and undoubtedly the richer the Earth, the leſs Seed will ſerve, and the more it will fill and increaſe. Eight or ten pounds will be ſufficient on rich Land, but twelve or thirteen on Land which is poorer. On ſome poor ſandy Land that would not bear

common Graſs, there has been prodigious Crops.

Stony Land indeed is without probability of ſucceſs, becauſe the Seed being very ſmall, is in courſe buried in ſuch Ground. The Dreſſing, is the ſtrewing by hand out of a Seedcot Wood or Coal-Aſhes, Sea-ſand, Malt-duſt, Clay, Peat, Fern, or Brick-kiln Aſhes, which will cauſe a new fermentation in the Ground, if ſown with or immediately after the Seed, and cauſe it to ſpring up apace; tho', in my opinion, Soot exceeds them all. This Graſs is ſomewhat tender, and may as well be ſown in *February* and *March* in a warm dry Soil and Situation, as in *April* and *May* on a clay, wet, or cold Ground. And in caſe the *Lucern*, when old, ſhould be cut off a little by the cold Weather in the Months before mentioned (which is the only misfortune of it) what can be better for it, than to mow off the dead Graſs, and give it a ſprinkling of Soot or Aſhes? If the nature of the Ground will admit of it, it ſhould be ploughed ten Inches deep, for the Root of this Graſs runs like a Dock, a pretty way into the Earth. It ſhould be ſown amongſt Oats or Barley, and after the very ſame method as Clover is ſowed, not harrowed in, but rolled about a fortnight after the Corn is ſowed; and if thick ſown, will deſtroy Weeds to the purpoſe, and laſt twenty years. An Acre will

keep three Horſes a year, and fats them in ten or twelve days.

Object. They ſay it is dangerous turning in Cows to feed on this Graſs, becauſe it is apt to hove them.

To this I anſwer, It is ſo, for either Cow, Sheep, or Ox; but if the directions are obſerved, as mentioned in the account of Clover, there is not ſuch great danger.

Ploughing, Soils, Dressings.

IT is evident, that Earth often digged and skreen'd in a Garden, produces the beſt Tillage; ſo is it the principal reaſon, that ploughing and harrowing of Land makes it the more fruitful; and this by ſome is called as good as a ſorry Dreſſing: for by this means, the Spirit of the Earth, or the *Sal terræ,* is collected, as alſo that of the Air and Rain; which ſeveral vegetable Salts being put into a condition to act, by the fineneſs and ſweetneſs of the Earth, are the Life and Nouriſhment of all things that grow therein; and for the want of theſe two Qualifications, many Crops have been loſt. So that upon the due Knowledge of Ploughing, and the right Practice thereof, depends chiefly the right benefit of Farming. Beſides, a light Earth is capacitated to receive the nitrous Dews and celeſtial Influences, which coagulate and fix on the ſame; when a heavy, ſour

Earth miſſes, and goes without that benefit. And therefore I ſhall here endeavour to ſupply in ſome meaſure, I believe I may ſay, what moſt Authors have been hitherto chiefly wanting in; and the main reaſon for their omiſſion, I preſume, is, their not being acquainted with the practical part of Ploughing, although it is certainly the moſt neceſſary Branch of Farming.

Strong clay Grounds can't be too often ploughed and expoſed to the Sun and Froſt. Gravels, Chalks, Sands, and ſuch light Grounds, are much ſooner brought into a Tilth with leſs Ploughings; for frequent Ploughings in theſe ſort of Grounds are of very ill conſequence, becauſe, as we ſay, they are ſoon worn out by it: *i. e.* the heavy Rains falling on the Gravels, waſh the Mould away, and leave the ſtony part too naked; and ſo on the Sands and Chalks, it waſhes away the beſt, and leaves the groſſer, worſer part behind. And therefore 'tis the modern practice to ſow theſe Lands with Clover, Trefoil, Lucern, or other Graſſes, which by being laid down one Summer, will in that time obtain a graſſy Cruſt, which the Gravel will feed on ſome time after; then about a month before *Michaelmas*, or later, give it one ploughing, and harrow in *Pirky* or *Dugdale* Wheat.

But 'tis the Expreſſion of a great Farmer, That as ſure as he ploughed ſuch a Lay deep,

deep, ſo ſure he was to loſe the greateſt part of his Crop. Therefore he ploughs ſuch graſſy Cruſts in as ſmall narrow Thoroughs as poſſible, and as ſhallow as he can, then ſows his Wheat, and harrows it in; and if any Graſs or Twitch appears, he and his Man uſed to rake it up, and carry it away.

Wet Grounds that have a clayey bottom are not ſo proper for this ſort of Culture, becauſe the Water, Froſt and Winds are apt to chill and kill the Wheat; and this ſort of Land being naturally ſour, is very apt to run with Twitch-graſs and other Weeds, and ſo choaks the Wheat as to make it a very thin Crop at Harveſt. Yet where ſuch wet flat Land can be drained, or well chalked or limed, there allowance muſt be given; and poſſibly there then may be good Crops of Wheat ſucceed, but it muſt be under ſuch particular advantages: For I have known the Farmers in the Vale, that lie flat and wet, to forbear ſowing Wheat, and prefer a Barley Crop, becauſe the former lies and ſuffers by the Winter's extremities, when the latter only by the Summer.

For this reaſon, Stitches or Ridges are beſt to ſow Wheat on, becauſe it prevents in ſome meaſure the blaſting of it: for Wheat is eaſily overcharged with Water either in Winter or Summer, and they defend it from the extremities of Weather, eſpecially

cold Winds; for the more uneven any piece of Land is, the better it bears the violences of Winter: Therefore in the Champain Countries where they do not plough and ſow in Ridges, they harrow not their Wheat in, but ſow it under thorough, and leave it rough, becauſe it breaks the fleeting Winds. And in imitation of this, the Gardeners now-a-days lay their Gardens ſhelving, not only the better to ſhelter their Seeds from the cold Winds, but alſo to give them the advantage of the Sun: and therefore it is a notion entertain'd here, that Wheat on the broad Land is more apt to ſtrike or blight, than on the Ridge or Stitch.

I have been inform'd, the following Method is made uſe of in ſome places to drain Land: If on a flat piece of Ground, they dig down at diſcretion three or four feet wide at top, and ſo narrower till they come to the bottom; which Trench being cut to a fall or deſcent, they at ſmall diſtances leave ſhelves on each ſide from the bottom upwards, perhaps two or three, according to the depth, which are cut on each ſide in the Earth, then fill the bottom with ſtones, or beech or buſh Faggots, and lay on till within a foot or two of the top; when they throw on the Mould, and plough it, as if no digging had been.

Where ſuch flat and wet Ground is ſown with Wheat on one ploughing up of Clover

or Trefoil, a good way is to let a Crop of Turnips follow the next Summer, to ſweeten the Ground and kill the twitch and ſour Graſs: and in order to this, I plough the Wheat-ſtitch down preſently after Harveſt. This, with ſome more ploughings, prepares the Ground for any Grain or Graſs the next Spring or Summer.

In all Grounds that are infeſted with Weeds, and where a Fin on the Share can be uſed; there it will do a great deal of ſervice by cutting off the Heads of the Hog-weeds, bruiſing and crippling others, and wholly extirpating the ſmaller ſort.

After a Crop of Turnips are eaten off, and you deſign to ſow the Land with Barley, let the firſt ploughing be as ſhallow as poſſible, and the ſecond more deep, then harrow and ſow: by this means you have the benefit of the Sheep-dung; but if you plough too deep the firſt time, you loſe part of it.

Plough all ſorts of binding Ground, eſpecially Gravels, very ſhallow, when you ſow your Grain; otherwiſe a great deal of it will not come thorough.

Chalk that is yellow without ſide, and fat and moiſt within, is the right, and pays better than Soot or any other Dreſſing; but hurlocky, ſtony Chalk does a great deal of harm inſtead of good, and will lie ſix or ſeven years without ſhattering. And the beſt

way to enjoy Chalk, is to put it on a Wheat-ſtubble or a Barley-ſtubble, and ſow it with Peas on one ploughing for the firſt time; but beſure plough it in very ſhallow, becauſe it naturally deſcends, and is often loſt by indiſcreet ploughings. Chalk does moſt ſervice on wet clayey Grounds, and of late years they chalk their Gravels to keep them from binding. It is ſaid, that Chalk is in its nature cold and dry, will ſweeten the Earth, make it hollow, and keep it dry, and thereby fits it for improvement by other Dreſſings. Small Chalk-ſtones ſcratch'd up by the Sheep in Summer, will turn to Flint; therefore Chalk muſt not be dug in Summer againſt Winter, becauſe 'twill harden by the Sun and Weather, and not be ſo good; ſo that the beſt time is between *Allhallontide* and *Candlemas* to lay it on.

Horſe-Hoeing: This is a pretty, ingenious Contrivance to ſave the Expence of Men Hoeing, (which generally is 7 *s.* an Acre in all) if managed accordingly; which cannot be done, unleſs a right Plough is made uſe of. The Author of a late Book, I know deſcribes the Invention of one; but a Perſon near me, committed a Miſtake in uſing the common Wheel-plough of *Hertfordſhire*: Firſt, he made two Thoroughs cloſe together, and drill'd in Horſe-Beans by the Hand; then at eight feet diſtance he did the ſame, and ſo on throughout the Field;

Field; but this did not anſwer to above half a Crop; for the Wheels kept the Share-Point from coming near enough the Rows of Beans to turn up the Mould on their Roots, and ſo kill the Weeds; ſo that they were in a great meaſure choaked at Harveſt. I took a Neighbour with me, and view'd their proceedings more than once, and obſerved, that our Vale Foot-Plough is proper for this way, provided Wheels are faſtned to it; which is a piece of Iron about twelve Inches long with notches: by this you may ſet the Plough nearer the Rows, or further from them, and ſo turn up the Earrh cloſe to the Stalks, and alſo all between the Rows. And it is alſo thought that the Rows of Beans at four feet diſtance, are better than at eight, becauſe there then will be a double Crop, and the Ground altogether clean'd as well for the next Wheat-Crop, by two or more Horſes drawing length-ways in the Foot-Plough. The deſign of this Practice is to employ the fallow Ground, and get a Crop off it, and at the ſame time prepare the Land for Wheat the *Michaelmas* following, as well as if no ſuch Crop had been, (for Peas or Beans hurt not the Ground as other Grain does:) by which method you have the Earth every year under Crops, ſometimes by this Cod-ware, and ſometimes it may be done by foreign Graſſes; ſo that the third Summer

mer is here got, which formerly uſed to be loſt, to the great damage of the Farmer.

Lime being a calcined Chalk, abounds with alkalous Salts, and is a great Friend to Vegetation, uſed in the before-mentioned manner in the account of Wheat. Lime ſlack'd, and ſow'd on a wettiſh Ground, did a great deal of ſervice in a cold wet Spring, by keeping the Wheat growing, when others yellowed and died. Lime makes Wheat gather, and become more thick. Lime mix'd with Earth and Dung together, is a very excellent Compoſt for any Land, as likewiſe is Chalk mix'd with bottoms of Ponds, or parings of Commons, or balks of Fields, and let lie a year, two, or three, being ſeveral times well incorporated: This will be ſhatter'd by the Froſt, and become fine Dreſſing, eſpecially for Graſs-Ground. Some will chalk Graſs-Ground about *Michaelmas*, ſaying, it will ſoon devour and eat it up; that it thickens the Ground, keeps it dry and warm, and kills Moſs. Others will chalk over Clover that has lain a year or two, and it will hold longer. A Perſon harrow'd in ſlack'd Lime with his Turnip-ſeed, on a wettiſh loamy Ground, about forty Buſhels to an Acre; this kept the Fly off, when others were eaten up, and had a good Crop: the quantity was two Pounds of Seed on an Acre. The Lime having lain in the Field till the Weather ſlack'd it on

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an heap, then ſowed and harrowed in twice in a place, then the Seed was ſown and harrowed once in a place. The black Caterpillar had juſt taken a new-hoed piece of Turnips, and eaten a few yards ſquare clean up, and would have quickly deſtroy'd the whole Field; but the Owner throwing ſome powder'd Lime over, kill'd them all: ſo that Lime kills Slug, Caterpillar, Fly and Worm, as does Soot, Aſhes, Brine, or Chamber-lye.

Stale, or Chamber-lye, if kept a Week, two, or three, will be ſufficient Dreſſing without any thing elſe, poured on the Wheat-Stitch through a Garden-pot Spout, the Man walking with it in his Hand all the time he ſprinkles it on; a little nouriſhes, but too much kills. This may be done in Winter, even till the Wheat ſpires, or longer, and will ſoon recover the ſalt burning Heat by the Roots being ſhaded; but on Graſs-Ground it ſhould not be put on after *February*, becauſe it's longer coming up before the Root is ſhaded. Its virtue ſometimes may be ſeen in four or five days after it's put on. Uſed right, as one ſaid, 'tis the beſt of Dreſſing for every thing that grows from the Tree to the Shrub. A Horſe-keeper uſed to take the Stale out of the Hole in the Stable, and throw it on the Wheat-ſtitch, and it made it ſo rank, that tho' they cut it ſeveral times, yet it became

all

all Straw at Harveſt, and no Corn. I knew a Vine at the back-door of a Publick-houſe that had a little Bank raiſed about the Root; in this the Gueſts frequently piſs'd, and it produced more Grapes every Year than any one Vine in theſe parts. And the like ſucceſs, in proportion, I find by throwing Stale on the diſtant Roots of my young Apple and Pear-Trees. I ſave it in two Kilderkins, which increaſes its ſtrength by longer keeping.

Dungs. Cow-dung is the worſt Dung to endure wet of any other, but kept in cover, and mix'd with ſhort Horſe-dung, Aſhes and Chamber-lye, is excellent Manure, ſowed out of the Seed-cot with the Hand, for any Graſs or Grain. Others ſave this ſhort, by itſelf, or put it under Fowls. If Dung is to be laid on Wheat or Barley after it is ſowed, it is beſt done immediately, becauſe then the Blade will eaſily make its way through; but if this is done any thing late, it burns up and yellows the Blade, and rots it. Dung was put on Wheat the 6th of *April* by a negligent Farmer, but did little ſervice. Wheat on other Straw put every night into a Fold on Graſs-Ground in Winter, will be trod in by the Sheep, and do ſervice. Another ſows Malt-duſt on new-ſown Barley, and is a good Dreſſing; and ſo are any ſort of Aſhes. But above moſt is Soot, about twenty Buſhels, or more, on an Acre

Acre of Wheat or Barley; if on Wheat, it ſhould not be ſown before *Candlemas*, becauſe the cold, long Rains and Snows are apt to waſh it in too ſoon; nor is it ſafe to ſow it much later, leſt a Drought ſucceed, and inſtead of aſſiſting the Wheat, will help to burn it up, as a great deal did this Summer, 1731. eſpecially on the Gravels and Sands. I think him in the right, that won't put his Dung on the fallow Ground till a little before he ſows, becauſe it's apt to breed Weeds, and waſted by the Sun, Rain, and Air. Dungs ought to be well rotted, turn'd and mix'd, before they are laid on the Ground, that the Seeds of Weeds may be ſpoiled and hindred propagating. The Mud of a Pond not emptied before in thirty Years, was put on Sward, and it being of a greaſy tenacious nature, was allowed by the Country-men to be Dreſſing for the ſame for ſeven Years to come; but a gravelly or clay Mud rather preys on than nouriſhes the Ground. A Perſon I knew dreſs'd his ſharp Gravels with Coney-clippings, Horn-ſhavings, Hoofs, *&c.* which does not benefit the Ground preſently. He left his Farm about two years after, when the ſucceeding Tenant had the chief advantage thereof. Beſides, as an ingenious Farmer ſaid, long Horſe-litter will anſwer as well, either ploughed in, or immediately laid on the Wheat or Barley after it is ſown. Theſe Gravels being of a hungry nature, will

feed

feed on it, or draw it all in by the next Harveſt. This long Horſe-litter preſerves this ſort of Ground from ſhoaling in froſty Weather; for it being a light looſe Earth, is apt to ſhatter, and leave the Wheat uncovered, as will alſo the Chalks and Sands. I know a great Farmer that calls Gravels the *Land of Forgetfulneſs*, as being of a hawky, voracious Nature, devouring a ſingle Dreſſing too ſoon, and then the Crop dwindles and complains; ſo that where it can be done, the preſent practice is to fold, and cart-dung on this, as well as Chalk and Sands; and then, as they are kerning Grounds, will return often the beſt of Crops. Turnips ſooted about twenty-four hours after they are up, will be entirely ſecured from the Fly. Sheep-Dreſſing by the Fold is one of the beſt of Dungs, and agrees with all ſorts of Earth. It's true, that Summer-folding is certainly the beſt; but when conveniency will allow, I am for Winter alſo: as they do in ſome parts of *Surrey* fold none in Summer, only in Winter; this is where they have a Crop on the Ground every year, and where the Earth will allow of it; for their greaſy Wool, the Heat of their Bodies, their Dung and Stale will nouriſh the Ground at all times. And for this purpoſe I have Racks thatch'd or boarded in the Winter to keep their Straw or Hay dry, and moved daily with their Fold. I know two Farmers

mers have attempted the folding of Hogs with ſtrong Hurdles, but were tired with the Miſchiefs they otherways did. One had a Crop of Turnips bitten by Cattle that broke in; the Owner finding they were like to rot, ploughed them in, and had a great Crop of Barley on the ſame, which enriched the Ground. Some time after, another folded on his Turnips as ſoon as ſown, and had an excellent Crop.

Burnt Clay: With three or four pecks of a Mattock, the whole Ant-hill will come out like a Core. A few Wheel-barrows full of this Earth may be eaſily fired with the help of a little Bruſh-wood or Sticks; but care muſt be taken that vent is not given to the fire, which is done by throwing Earth on where the Smoke comes through; ſo may you increaſe it into a round body in the Summer-time, till as big as you pleaſe. When you have fired about three Loads, you may put on your Clay, a little at a time with the Shovel, and the fire by degrees will bring a red or other Clay, or Flint-ſtones, into an Aſh or Powder; which certainly is a moſt excellent Dreſſing for any Grain or Graſs. About forty Buſhels ſows an Acre by the Hand out of a Seed-cot; and harrowed in with Barley and Graſs-Seeds, does vaſt ſervice. I had it burnt for a half-penny a heap'd ſingle Buſhel. Others get ſix or eight Loads of Clay cut into ſpits, about as thick as a Brick; let it be pretty well

well dried in the Sun, and having made a heap of Furze-faggot, Billets, Coal, or other Combuſtibles, laid one upon another, about as big as a little Bonfire, in a pyramidal Form, bring the Spits of Clay, and lay them round the ſame, two or three Spits thick, leaving only room to put in the fire; and then light the ſame. The Clay by the innate heat of the Wood, *&c.* within, will ſoon take fire, and as it advances outwards, ſtill lay on more ſpits of Clay, placing them in ſuch an order, ſo that the fire may be pent up within the heap, and never ſuffered to go out; for if you do that, your labour will be loſt, and you muſt begin again. After you have burnt up your ſix or eight Loads of Clay, which is a little dry, the heat which is within will be ſo great, as that it will fire any thing; and then you may lay on the Clay green as it is dug out of the Pit, being always watchful to keep a new addition of it, laying on one after another; but not too faſt neither, leſt you ſmother the fire, and put it out that way: this you may enlarge, and ſpread out at the feet as the heap ſwells; and if occaſion be, there may be ſtages of Boards laid, on which the Men may ſtand who place the ſpits of Clay. This being done, and the fire kept continually in, and watch'd night and day, you will ſoon have as large a heap as you pleaſe for the Improvement of Land; for the larger the heap grows, the eaſier it is

to

to burn the Clay. This is a moſt cheap Dreſſing, and not only agrees with all ſorts of Land and Situations; but alſo laid about the Roots of young or old Fruit-Trees pretty thick, enlarges, multiplies and accelerates their Fruit; and is proper to ſow over all Kitchen-garden Ware.

Hog-Dung is reckoned the beſt to put on Barley-ground juſt before ſowing, and ploughed in; it is moſt efficacious taken directly out of the Sty or Yard, and carry'd to the Field. This, as well as Cow-dung, is reckoned a cool Manure; and therefore beſt ſuits Gravels or Sands.

Pits are often made uſe of, to throw in Horſe-litter and other Stuff, in order to rot; but this is a miſtake, for theſe Pits rather prevent it. Laying on level Ground, and often turning, furthers it beſt.

Sand laid on, and mixed with Clay-ground, ſhortens it, and makes it more fertile, as does Clay with Sand.

Cover over Dungs and Aſhes keeps in their Salts, which otherways would be waſh'd out by the Rains, and exhauſted by the Sun and Air. And under this Cover, crude Earth may be brought and trampled on by Sheep or other Cattle, in the Winter, and ſo enriched as to become good Manure.

All ſorts of Salt Dreſſings from the Sea, which in ſome places abounds with plenty of them, as I have ſeen on the Coaſts of *Devon*

and *Cornwall*, as their Sea-weed or Ore-weed, which grows at the bottom of the Sea, and is tore up by rough Weather and caſt on the next Shore, wherewith they make a Compoſt for Barley-land; alſo their Snail-cod from deep Rivers, and Oyſter-ſhells; which laſt ſort being only Salt congealed into ſuch a form, will, after two or three Years, when the Weather has diſſolv'd them, mix with the moiſt Land, and do a great deal of good for ſeveral Years after.

Fowl-Dung challenges the Priority of all other, whether Pidgeons or Hens, a Load of which is reckon'd worth ten of others, and is generally laid on Wheat or Barley, after they are ſown, which we call Top-Dreſſing. But with Barley, I think it is better harrowed in. Others mix it with Sand-mould, Chaff, or Duſt, to take off its fiery nature. This Dung laid on the Roots of Fruit-Trees, does wonders; and of no leſs value is it on Aſparagus-Beds. Gooſe-Dung or any other Fowl-Dung is excellent; but more, if mix'd with cooling Earths, and let lie to rot and putrify under Cover. This Cover is moſt ſerviceable to feed Sheep or other Cattle under in Winter, whereby they make their Dungs go abundantly further, eſpecially if mix'd with Straw or Earths. In *Holland* they ſay they ſave their Cow-Urine as their Dung: for Urine of Beaſts as well as Man's, is a great fatner of the Earth.

Earth. Human Ordure is a rich Soil, if mix'd with Straw expoſed to the Weather, and let lie to rot. *Aſhes* of Coal are eſteem'd much beyond Wood-Aſhes, and are ſold for 4 *d. per* Buſhel thirty miles from *London.* Wood-Aſhes are next, and both produce Honeyſuckle Graſs in Meadows in abundance, if laid on about *Chriſtmas*, forty Buſhels on an Acre. I have chiefly by their help cured ſeveral Fields of Moſs, to which they are an utter Enemy; and the ſure way to make them efficacious, is to put eighty Buſhels on an Acre, as I have done. But Ground ſhould not be dreſs'd twice together with them, but once with Dung, and the next with Aſhes. Aſhes made from Straw, is the worſt ſort of all. *Soap-Aſhes* are of great worth on plough'd Ground or Meadow, laid on the beginning of Winter, that the Rains may waſh them in. Of *Common Salt*, a Buſhel was ſowed on a patch of barren Ground, which remained a freſh and green Swarth a long time after. And now the Duty is taken off, I don't know but it may anſwer on Land either ſown by the Hand alone, or mix'd with Sand-mould Aſhes or Fowl-Dungs. *Rags*, for their warm nature, chopt ſmall, and ſowed and ploughed in warm light Ground, will do great ſervice. Alſo Hair of Hogs, and from the Hides of other Beaſts, does good, thinly laid on the Ground; as do Coney-clippings and Hoofs

chopt ſmall, benefit Gravels vaſtly, by their long duration in this hungry Soil. Grounds of Barrels, and Blood dug in at the Roots of Trees, are great enrichers, as is any ſort of Carrion. All theſe Dungs are made more improvable by mixing and digeſting together under cover, than if laid on directly new: for certainly one Load of rotten Dung is worth treble the quantity of new hollow and unrotted Dung. And our common way is to draw out the Yard Horſe-litter and Dungs in the Spring after the Lent-Grain is ſown, and put into a Clamp, which covered on the Top and Sides with parings of Earth, will prevent the Sun and Wind attracting and driving from it much of its virtue: for the better cured your Dung is, the better will be the Crop; and an increaſe in your Crop will make an increaſe of your Dung, and ſo *ad infinitum.* On the contrary, a decay in the Dung creates a decay in the Crop, from whence ariſes the Ruin of Farmers and Landlords.

White Sand is only fit for Fir, or Pine-Trees. Yellow Sand ſomething better will bear Buck-Wheat; the Haulm whereof being ploughed in, will be a great Dreſſing for other Wheat, as before directed. It is alſo a great Preparation for Turnips, Peas, or Carrots; as alſo for Potatoes, if it is not too wet. Lucern does excellently well in this Soil. The wet Sands will do for Cow-Graſs,

or

or white Clover and Rey-graſs mix'd together, will be a laſting Crop: ſix pounds of Clover and one Buſhel of Rey-graſs Seed ſow an Acre. If too wet, Alders, Arbeles, or Sallows will ſoon pay well. Theſe, as well as black Sands, are excellent Manure for clay Grounds.

Gravels, if freſh and in heart, will bear good Peas; alſo ſweet Turnips, but ſmall. This Ground is alſo good for Flax; then let Buck-wheat follow; and after, Oats: and where Dungs are ſcarce, an Author ſays, this method will ſupply. In *September*, mow Fern; or, if that can't be had, young Furze: lay it a foot thick on the Ridge you intend to plant Potatoes upon; cover them at the bottom of the Furrow, where the Plough doth not come, with Virgin-Earth half a foot thick all over, and ſo let it lie till the firſt or middle of *March*, then dibble in the Potatoes about nine Inches aſunder, all in Rows over the bed; and when in the ſecond Leaf, cover them with Mould an Inch thick, which will deſtroy the Weeds, and make them very productive. All theſe Ridges being made fat and mellow with the Stalks, the next Year will bring excellent Grain, and for two or three Years together.

The *Sandy Loam* is one of the beſt Soils for Corn in *England*, and indeed for any thing elſe, where it happens to be deep enough; as ſix or ſeven Inches, 'tis admir'd

for Carrots, Parſnips, or Turnips. If this Soil lies ſhallow, ſow it with Lucern-graſs or Trefoil. Loam is not of ſuch a hard Texture of Parts as to reſiſt the Roots of any Plant like Clay, or receive them too ſoon like Sand; both which are faults in Soil: for conſidering the divers ſorts of Plants we muſt cultivate, as well the tender-rooted, as the hard-rooted, we muſt have light Soil for the firſt, and a ſtrong is more proper for the laſt. But this being ſomewhat leſs free than the Sand, and leſs tenacious than the Clay, all Plants will agree well enough with it, and every ſort live an eaſy life therein, or make their way like the middling People in a Nation, by ſlow and ſure means; while the hot-headed, like Sand, are too ſpeedily overthrown in their attempts; and the too grave, like Clay, are never of any uſe till they are ſtirred up. Where the Loam is too wet, and can't be drained, it will bear Hemp. In this Soil the everlaſting Pea will grow: It affords excellent Fodder for Cattle, and may be cut three times a Summer. This Soil, with the help of the cleanings of Ponds or Ditches, will bear good Hops: And it requires the leaſt Manure of any other.

Marl is accounted one of the beſt Improvers of Land, but not of itſelf to be good for any thing; yet, if People knew better what Marl was, they would find it upon the Surface, as well as in Pits, as it may

may be ſeen in many places of ſeveral colours. When 'tis yellow, ſome call it Loam; when 'tis white, 'tis called Chalk; and when 'tis blue, 'tis a blue Marly Ground: but when we dig for it, 'tis all Marl; for there are Marl-Pits common of all theſe ſorts. But if they are dug deep in the Ground, they muſt have time to lie above it, and imbibe the Air before they are made uſe of. After this, 'tis either broken again by flinging into the Cart, or by ſpreading or ploughing, ſo that the parts are more capable to receive the Air. For if we take Marl freſh out of the Pit, and ſow the Seeds moſt familiar to it, they will not grow upon it; but let it remain ſome time in the Air to mellow, it will bring any Seed to perfection. With this notice, any one may know what I mean, *i. e.* Marl is a proper Soil for any Plant, when it has had Air enough to mellow it, and is deep enough to receive the Roots. According to this Notion is the Mud of Ditches or Ponds more or leſs better'd, which certainly is much improved when diveſted of its crude raw quality; therefore 'tis ſurely good Husbandry to mix it with Chalk, Lime, Sand, Litter, Horſe-dung or Aſhes, and being more than once turned and well mixed, will ſooner incorporate with the Earth it is to dreſs, and thereby become much more fertile. Marl, as well as any other free or open Earth which is taken

under the Turf, and below the Surface, as it is ſuppoſed not to have borne any Crop that has not in the leaſt been diveſted of any natural power, is judged to be that which the Reverend Mr. *Lawrence* calls Virgin-Earth; which, if of the beſt ſort, is full of Riches, and of the greateſt Production of any Earth whatſoever. This is that which moſt plentifully abounds with *Sal Terræ* or the *Spiritus Mundi*, by reaſon of its being covered by the Turf, and ſo defended againſt the Exhalations of the Sun and Air; as are bottoms of Cellars, Stables, Barns, *&c.* and in ſome meaſure are Woods: which makes that ſort of Earth ſo extraordinary prolifick when it is ſowed with Grain, after the Wood is ſtocked up. And all Cover upon the Ground conduces to the conſervation and increaſe of this Spirit; for which reaſon, Sheep-folding all the Winter under Cover, in my opinion, would be of great importance to the Ground, and little behind that of Summer. I will ſuppoſe it to be performed in this manner, to anſwer the purpoſe:

For forty Sheep place three Hurdles on every ſide, ſo that twenty-ſeven feet ſquare ſhould be ſo taken in; let there be a Ruſer or Pole of that length, each end reſting on another, (by a Swivel) of about eight feet high; which ſhould likewiſe have a Brace at each end, to help the better ſupporting the

the long Pole, and a Foot to ſupport that, and to make them thereby eaſier to remove each night. Acroſs this long Pole a Tarpaulin or other thin Cloth may be laid on two or three Ropes to bear it, which ſhould be tack'd to the Hurdles on the ſides, and which ſhould be drawn with Straw-bands to keep out the Weather. Under this, or ſome ſuch Contrivance, the Sheep would feed their Meat dry out of the Rack, and which by one Man may be ſhifted each night they are folded; and by this Method the Sheeps Dung and Stale will become more fertile by the Cover of the Straw or Hay that they pull under their feet. So does Snow enrich the Earth, as is apparent to vulgar Obſervation, not only by covering the Earth to preſerve its Spirits in itſelf, but by the nitrous Spirit it leaves in the Earth after its ſolution. And for this very Reaſon does ſtony Ground produce ſuch good Crops of Corn, which has been prov'd by taking the Stones away, and the Corn has not proved ſo well. That this Spirit of the Earth hath in it a ſenſible Heat as well as Fertility, we may perceive by Springs in great Froſts, when the Pores of the Earth are ſhut, the Body from whence theſe Springs flow is warm. On the contrary, when the Pores are open, and this Spirit waſted and transformed into Vegetables, Animals, *&c.* and exhauſted by the heat of the Sun; then is the Body internally

ternally cold, as we ſenſibly perceive by the Waters in Wells in the Summer-time.

By the true Knowledge of this, a Gate is opened to propagate, maturate, or advance the Growth or Worth of any Tree, Plant, Grain, Fruit, or Herb, to the higheſt pitch Nature admits of. And, as a learned Author obſerves, this Globe of the Earth that affords unto us the Subſtance, not only of our ſelves, but of all other Creatures ſublunary, is impregnated with a Spirit moſt ſubtile and ethereal; which the Original or Father of Nature has placed in this World as the Inſtrument of Life and Motion of every thing. The Spirit is that which inceſſantly adminiſters to every Animal its Generation, Life, Growth and Motion, to every Vegetable its Original and Vegetation: It is a Vehicle that carries with it the ſulphureous and ſaline Parts, whereof the Matter, Subſtance, or Body of all Vegetables and Animals are formed and compoſed. It is the Operator or Workman, that tranſmutes by its active Heat the ſulphureous and ſaline Parts of the Earth or Water into that variety of Objects we daily behold or enjoy. It continually perſpires through the Pores of the Earth, carrying with it the ſulphureous and ſaline Part, the only Treaſure the Farmer ſeeks for; as hath been by ſome ingenious Artiſts mechanically proved, by receiving the ſame between the Spring and Autumn in an Alembick or Still-Head, where

where it hath condenſed and copiouſly diſtilled into a Receiver at that Seaſon of the Year; the Earth then more liberally affording it, than in the Winter-Seaſon. Which ſpirituous Liquor ſo received, is not a Treaſure to be ſlighted or neglected, carrying with it the only Matter of Vegetation; as the ſame Artiſt affirmed, that having placed the ſame under a Melon-glaſs near ſome Vegetable, it was thereby wholly attracted externally, and converted into that Vegetable. It is eaſily obtained, and that in great quantities, by ſuch who think not a little time and labour loſt, to ſearch into the Myſteries of Nature. But whether we obtain it ſingly, or ſimply, or not, this we know, it is to be received by placing the more natural Receptacles, the Seeds, Plants, and Trees, in the Earth; which gives it us tranſmuted into ſuch Forms and Subſtances, as are moſt deſired and neceſſary. Water contains in it the more ſpirituous or aqueous Part; Plants, Flowers, and Soils, more of the ſulphureous; and Barks of Trees, Blood of Animals, and ſeveral Minerals, more of the ſaline: which three Qualities are more or leſs in all things. How ſoon will Horſe-hairs receive life, lying in Rain-water but a few days in the heat of the Sun, in the Spring-time? whereof many may be ſeen in the High-ways after Rain in the Month of *May*,

May, very nimble and quick, that had not yet loſt their Shape of a Horſe-hair.

Neither is the more ſulphureous Part capable of yielding Vegetables, being of too hot and pungent a nature, as the Dung of Animals that eject no Urine, *viz.* the Volatiles, unleſs commixed or allayed with ſome other Matter abounding with the other principles, or that it loſes its too fiery, deſtructive nature by being expoſed to the Sun and Air until it be evaporated; then will it emit ſeveral Vegetables, the Growth of which will be accelerated and brought forward by the aſſiſtance of Rain or other Water, which has in it a portion of this Spirit of the World; and by the help of Water the Earth is qualified better for its perſpiration. That this Subject is the very Eſſence of Vegetables, and that from it they receive their Subſtance, and not from Water only, is evident in ſuch places where Vegetables are not permitted to grow, and where it cannot vapour away, nor is exhaled by the Sun or Air, as under Buildings, Barns, Stables, Pidgeon-houſes, as I ſaid before, where it condenſes into Nitre or Saltpetre, the only fruitful Salt, (tho' improperly called ſo;) not generated, as ſome fondly conceive, from any caſual moiſture, as Urine in Stables, *&c.* though 'tis augmented and increaſed thereby; but merely from the Spirit of the World. Lands therefore reſting from the Plough or Spade are much

much enriched only by the increaſe of this Subject, and this is become an ordinary way of Improvement; witneſs our ſeveral Lays of natural and ſowed Graſſes, which return ſuch profitable Crops of Corn on the firſt ſowing after they are broke up. This Eſſence is in all Aſhes, which otherways may be called the fixed Salt, cauſed by calcination, as the Lye or Lee of Aſhes may be boiled till a Salt is found at the bottom of the Kettle or Copper; which indeed is the true vegetable Salt, and is in all Lime, burnt Earth, or Clays, *&c.*

Common crude or ſingle Salt, if ſtrew'd on the Ground, is thought by ſome not to improve, but corrode and burn it; but they ſay, Lime betters it: yet they agree in this, that the coupling of theſe male and female Salts makes a high improvement. Indeed, they do not produce a long Graſs for the Scythe, but for Paſture; and it will be ſo thick, ſhort and ſweet, as to grow all Winter; nor are their higheſt Grounds parched in the hotteſt Summer, by reaſon of the Honeyſuckle-head which ſhades its Roots. And if the ſea or common Salt is too luſty and active in itſelf, the Lime has a more balſamick and gentle Salt; which being directly joined and mix'd with the other, is thereby invigorated, and becomes more powerful.

CLAYS.

PATENT OFFICE
CHARTS.

THE White Clay, as an Author obſerves, is call'd in many places ſoft Chalk; it will bring very good Corn, by being well ploughed and manured with Fold and Dung-cart, or with black Sand or heathy Ground, or Turf from low Grounds, or Fern mixed and rotted with driſt Sand. It will bear, after the Crop, is off the *Flanders* Spurry, which is frequently ſown to fatten Cattle, and cauſe good ſtore of Milk; it is alſo a great fatner of Fowl, and will make them lay great ſtore of Eggs early in the Year. This Soil, ſays he, will afterwards bring a good Crop of Lentils, and alſo good *Dutch* Clover.

But notwithſtanding what he affirms, I know where they could never rightly obtain a full Crop of Clover in the Chalky Ground, which obliged them to ſow Treſoil; this indeed ſucceeds to their great profit for Sheep and Cows, when no other Graſs (as they know of) will grow to any purpoſe there. It frequently happens that the Chalky Grounds abound *Ivinghoe*, about two miles from me, bear ſometimes eight Loads of Wheat on an Acre, by their double Dreſſings; which of late has encouraged them to plough up the ſides of great Hills to come at the dry chalky Ground. Barley,

Oats,

Oats, and Peas, by this means will be vaſt Crops, eſpecially in a wet Summer, not inferiour to their rich, black Vale-Soils. But this Soil is not without ſome Inconveniences attending it; as that in the Winter by the Froſts it is apt to ſhoal, and by the Air blown, and by the Rain waſh'd away from the Roots of the Corn, ſo as to leave it naked, and thereby kills a great part of it. To prevent this, they roll it both forward and acroſs the Stitches, or broad Lands, and likewiſe fold on it ſometimes after ſowing.

The reddiſh Clays, and indeed all others, are beſt for Wheat; but the red Clay in particular, will not anſwer in Lent-Grain, without the help of Chalk or Sand.

A Perſon ordered his Servant to plough up the Wheat-ſtitch of this ſort of Ground, in order to get it into a Tilth for Barley the next Spring, and ſaid he would dreſs it very well with Cart-dung. The Ploughman's Anſwer was, that if he did ſo, or double-dreſs it, the Ground would not recover it in ten years: for this Clay-ground will not admit of croſs Cropping, without the help of Chalk, which ſweetens it, and keeps it light; when otherways it will become ſour and clotty, and bear nothing to the purpoſe. But Gravels, Sands, and dry Chalks, if they are dreſs'd well, and got into a fine Tilth, will bear croſs Cropping, even every Year, without chalking, but better with.

Red

Red or *Yellow Clay.* This Soil is commonly called the beſt Wheat-Land, and for Clover; but Lent-Grain and moſt other Graſs-Seeds do not proſper to any great account, except the *Poland* Oat, which I have been forced to reap off ſuch Soil. Woad, they ſay, will bring valuable Crops on this ſort of Earth. Turnips will here grow to a great bigneſs. This ſort of Ground is as much mended by gritty Sand, as Sand is by Clay. And where two Neighbours exchanged Soils with each other, their barren Grounds were made quickly fertile, even from 1 *l.* an Acre to 40 *s.* The firſt Year after thus mixing the Ground, they ſet Beans on two ploughings, and had a very good Crop; directly on that, they ſow'd Turnips, and fed Sheep. In the next Spring following, they ploughed and ſowed Bullamon, which is Peas and Oats, and brought a great Crop; ſince that, it has borne very good Wheat. Upon this ſort of Clay, Aſh, Oak, Beech, Pear-Tree, Apple-Tree, Cherry-Tree and Fir will grow proſperouſly, as will Wall-nuts and Beech on the Chalks.

This ſort of Ground is very apt to be ſour, and run with Twitch-Graſs; therefore good Ploughings are beſt, eſpecially by turning it up in ſharp Bouts for the Froſt to ſhoal, and the Sun to mellow. On the clayey Loams, the former practice of ſowing naked Clover is much laid aſide, becauſe ſingle Clover

Clover is apt to give room to the Twitch-Graſs to grow among it; nor is it of itſelf ſo great a ſweetner to the Earth, as when mix'd and ſowed with Trefoil; then it is of more potency to kill Weeds, by means of their great ſpreading Cover. When the Dung is laid on in *March* or *April*, and the Weather will permit, plough it in not above three Inches deep; and when it begins to dry, give it another ploughing an Inch or two deeper, which will mix the Dung or Manure laid upon it before the firſt Ploughing, and ſo make an extraordinary reduction of the ſtiffneſs of the Clay: after this, it may produce a great Crop of Turnips. Some commend this Soil for the planting it with Pear-ſtocks, and ſo let them grow in the manner of Coppice-Wood; for that it will proſper ſo well, that at five or ſix Years end it may be cut for Fences, Stakes, Implements, and Fire-Wood.

Beasts.

COWS are reckon'd to pay about 4 *l.* a year clear profit by the Vale Graziers, either by ſuckling Calves for the Butchers, or by making Butter and Cheeſe, or by fatting the Beaſt for the Butcher. 'Tis true, there have been ſome Cows that paid 5 *l.* or more; but one with another, this is the common computation: but certain it is,

that no one knows what a Cow will pay, unleſs ſhe has her conſtant bellyfull of requiſite Meat. The Gentleman, in Mr. *Bradley*'s monthly Book for *May*, ſays, that a Cow will give three Gallons of Milk a day throughout the Year, provided you keep her changed for a new milch'd one, when ſhe begins to fail, and then will return about 10*d.* a day, in all 15 *l.* 14 *s.* 2 *d.* a year. I agree with him, it may anſwer in ſome parts of *England*; but what muſt be the Diſcount in changing? I have often experienced, that if I give 5 *l.* 10 *s.* for a Cow and a Calf; when ſhe is dry, 55 *s.* or 3 *l.* is a good price for her. So that if a Cow was to be changed every ninety days, there will be, I believe, a Draw-back proportionable to my Calculation of 4 or 5 *l.* a year. Therefore I rather agree with his Opponent's Account, which amounts to 5 *l.* a year; *viz.* a Cow for the firſt ninety days will yield three Gallons of Milk; for ninety more, one Gallon; for ninety more, ſcarce one quarter of a Gallon; and for ninety more, ſhe is dry: Thus in a Year a Cow may yield 384 Gallons of Milk, which will make two Hogſheads and a half of Raw-Milk Cheeſe and a Hogſhead of Whey-Butter, beſides Whey for Swine; or elſe two Hogſheads of Butter, and one Hogſhead of Skim-Milk Cheeſe, beſides Whey as aforeſaid for drink to the People, and food for Swine:

Swine: by this account, the profit of a Cow's Milk a year may be about 5 *l.* Then for making and ſelling Veal, I have ſuckled ſix Cows at a time, and been engaged in the Method ſeveral Years, and could never find a Cow pay above 4 or 5 *l.* a year this way; for I reckon ſhe will ſuckle three Calves beſides her own, and what overplus happens in a year will only ſupply what ſhe borrow'd from other Cows to help her in fatning the four Calves. I have alſo try'd what I could get by ſuckling Calves at 2 *s.* 6 *d.* *per* Week in the Summer, and 3 *s.* *per* Week in the Winter, for the Butcher; he finding the Calf; but found myſelf no better off than the former way: for in this caſe he would buy in larger Calves than ordinary on purpoſe to have his pennyworths of Milk. Nor will this pay and defray in the dead of Winter in any of the foregoing caſes; for then a Cow will nearly, if not quite, eat 200 of Upland-Meadow Hay in a Week, which, twenty-ſeven Miles diſtant from *London*, we ſell for 4 *s.* a hundred. But the caſe is alter'd in the Vales and Marſhes, where by the coarſeneſs of their Hay, or the remoteneſs of their Market, they can't make ſo much any other way as by ſuckling; or where they come at plenty of Grains, which is a great breeder of Milk, but cauſes a ſwift rot in a Cow, without a plenty of Hay with them. Malt-Duſt is a very good thing to

promote Milk, and is beneficial where Grains can't be had; a double Buſhel is generally ſold for 12 *d.* and is uſed thus: To one Cow give a double handful in a tub, pouring boiling Water on it, and ſo three times a day; this will make the Water in a little time like a ſtrong Wort, and will nouriſh much. Some Cows will take it directly, others muſt be faſted to it before they will touch it; but when once taſted, they will devour it greedily. Raw Turnips, chopt or whole, is given by ſome; others will boil them to maſh, and give them with Bran mix'd.

Calves, the firſt Week, are allowed not their fill, but afterwards as much as they will ſuck, becauſe in the beginning they are apt to ſcour, if they have too much plenty; and all the time we give them powder'd Chalk in a Trough, beſides great pieces hung up by them to lick at pleaſure, in order to whiten their Fleſh, and make them ſuck, and keep them from being laxative; and if then they ſhould ſcour (which hinders their fatting) we give them ſome Syrup of Sloes mix'd with Flour, and put down their Throat by way of Cram, with a little Milk to waſh it down. Many cram them beſides ſuckling, to make Milk go the further, by mixing Wheat or Barley-flour with Milk, and dipping the Crams in Milk when you put 'em down their Throat; others make uſe of ground Madder; others black

Pepper

Pepper in Urine, to cauſe a drought, that they may ſuck the more; and keep them in the dark, except when they ſuck, that they may be induced to ſleep more than ordinarily, which, with bleeding often, helps them to fat the ſooner. The Butchers, at the end of the firſt fortnight, cut a piece off the Tail; at the next fortnight's end, they bleed them in the Neck; at ſix Weeks they do the ſame, and ſo on every fortnight; it whitens their Fleſh, and makes them fatter with leſs Milk. We give them Wheat-ſtraw twice a day on a Layer of Faggots to keep them dry; but in *Middleſex*, where it is not ſo plenty, they make holes in Planks that lie with a deſcent.

A Heifer will ſpring about three Months before ſhe calves, but a ſeven Year-old Cow only three Weeks; ſo that to know if a Heifer is in Calf in that time, you may draw her Dugs, and if Milk or Corruption appears, ſhe is in Calf. The Country-maids commonly obſerve to dry a Cow of a Sunday-morning, and then ſhe will always calve in the day-time, as they ſay.

A Cow in middling caſe that is fed with Straw in the Winter, need not have Hay above a Month before ſhe calves, for that ſhe will give more Milk than if ſhe had it longer; becauſe the fatter the Cow, the leſs Milk; and yet if too poor, it is dangerous,

leſt, as we call it, ſhe falls in calving: and if the Seaſon will permit, it is beſt to let a Cow calve in the Field or Yard, that ſhe may have room; nor is it ſo proper to houſe her one night, if the Weather is good, becauſe the Calf will be apt to butt the Bag, and ſo cauſe it to be ſnarl'd and hard: and therefore we commonly hold the Calf in a Collar and String.

When a Cow is bulled, as ſoon as it can be done when ſhe comes home, throw a pail of Water on her Udder behind, and keep her up that night from any other, becauſe ſhe will be apt to ride them, and ſo miſs her bulling.

If you would fat a Cow that calved in the Spring-time, dry her about the 10th of *Auguſt*, and then ſhe will go near to fat with the After-paſture. You may let her take Bull, or not, it is of no great conſequence; but ſuckling fatigues Cows more than ſuckling and milking, and is apt to hinder their bulling; but both impede their fatting. And if when a Cow is dried, her Udder gangrenes, as it often happens, the only quick cure is to cut off her Dugs, and immediately drive her about; then, after ſhe has bled heartily, anoint them with Hog's Lard, and ſhe will do well: but this muſt only be done where the Cow is to be fatted directly on the ſame.

Some Cows will continue in a good milking ſtate till ten years old; but after that, decline.

As

As ſoon as ſhe has calved, throw a handful of Salt on each ſide of the Calf, which the Cow will ſwallow by licking it; this will cauſe her to glean very ſpeedily. I know a Farmer that gives a cleanſing Drink to the Cow preſently after calving, as believing the Milk will not be right wholeſome without it. Others, for cheapneſs ſake, give a horn of Stale to her, and a day or two after, another; this, they ſay, will keep the Garget out of her Bag.

For a Cow that piſſes Blood.

Take Oak, ſhave off the outer Bark, and boil it in Spring-water till it be red; alſo Comfrey, Shepherd's-purſe, Plantain, Sage, green Hemp or Nettles, of each a good Handfull; and boil them with the Bark, ſtrain it, and put a good Handfull of Salt in the Water, alſo ſome Allum, Bole-Armoniac, Chalk, or the Powder of Sea-Coal. If your Beaſt is weak, give only a Quart, or ſcarce ſo much; but if ſtrong, more: once often ſerves, but twice will ſurely cure the Beaſt. Give it lukewarm.

Another. Toaſt a piece of Bread, and cover it well with Tar, and give it. It's occaſion'd, ſome ſay, by their brouzing on Oak-leaves, *&c.* A Frog put down a Cow's Throat, and ſhe immediately drove into

Water, will directly piſs clear. It's a preſent Cure.

For the Blain in Cows.

When firſt taken, they will ſtare and foam, with their Tongues out of their Mouths; then immediately prick her in the Noſe, or blood her in the Neck, which will keep her alive twenty-four Hours: then take a Handfull of Salt in about a pint of Water, and give it her, then directly ram a whole Egg down her Throat. Sometimes they have it behind under their Tail, when a Bliſter will appear; this is cured by running a Hand down her Fundament cloſe-finger'd, and brought wide out, which breaks the Blain within. If not diſcovered preſently, it kills them in half an hour ſometimes.

For the black or red Water in Cows, a Diſtemper next to the piſſing of Blood.

Take a piece of Iron, heat it hot in the Fire, and put it into two Quarts of Milk; after let the Milk cool, and give it the Beaſt blood-warm, and it will bind up the bloody Iſſue after two or three times giving.

For

For a Cow that ſtrains in Calving——when their Calf-haulm, Udder, or Bag will come down and ſwell, as much as a blown Bladder.

Take new Milk, and ſtrew thereon Linſeed bruiſed to Powder, or Chalk, or Pepper, but Linſeed is beſt; put it up with your Hand, and let her hinder parts ſtand higher for two or three days, than her fore-part.

For a Cow, who by lying on the Earth, and too ſoon drinking cold Water after Calving, her Calf-haulm ſwells and lies over the Neck of the Bladder, ſtopping the Urine that ſhe cannot ſtale, or ſtand on her feet.

Take two Sacks or a Window-cloth, put it under her body, faſten a Rope to it, and put it over the Beam of the Barn, and draw her up that ſhe cannot touch the Ground with her Feet; then let a Woman anoint her Hand, and work the Calf's-haulm from the Bladder, that the Water may have a paſſage. Give her warm bedding, warm drinks, and warm cloths.

For a Cow that cannot glean.

Take Germander and Pennyroyal, boil them in a quart of Ale, then ſtrain it, and put

put therein a little Saffron, and give it her to drink, and it will bring it away in two or three days. Others will give two Ounces of Flower of Brimſtone in a quart of new Milk warm'd.

To feed Calves whilſt they ſuck.

Put into a Trough Barley-meal, and it will whiten and fat. Some give them Oats in Troughs all the time of their ſuckling; and the night before they have them to Market, cut off a piece of the Tail, and tie it up with a Shoemaker's End, and when at Market will give them a Cram or two of Flower mix'd with Claret, to keep them from ſcouring.

To cure Swellings, or Snarl'd Bags of Cows.

Take Rue and Adder's-Tongue, ſtamp them together, and ſqueeze out the Juice; this mix with a pound of freſh Butter from the Churn without Salt, and make into an Ointment.——This is a moſt excellent Receipt, as I have often experienced.

Another Receipt to make a Cow glean.

Take a large Handfull of Pennyroyal, and boil it in three pints of Ale, then ſtrain it,

it, and put one pound of Treacle into it, and let it juſt boil; take it off, and put an halfpenny-worth of Flower of Brimſtone to it, and ſo give it in a Horn to the Cow. Some, inſtead of Pennyroyal, put in Southern-wood.

Horſes. Our Farmers hereabouts commonly go to *Tame*-Fair on *Michaelmas*-day, and buy the yearling Colts for about two Guineas a-piece, which they turn into their Latter-Math for that Winter, and give them ſome Hay; two are beſt, for their Company's ſake: and the next Spring about the beginning of *May*, put them into the Vale about *Aylesbury*, for a Shilling or Eighteenpence a Week, and ſo raiſe fine Horſes at a cheap Rate. And as to their Management and Cure of Diſeaſes, I think *Gibſon's Diſpenſatory*, and his other Books, are the beſt that ever came out on that Subject. I ſhall therefore only take notice, that for the Farcy, what I mention alſo for Sheep, is a moſt excellent Receipt.

Steep the Regulus of Antimony in Ale, with a little of the Spice called Grains of Paradiſe, and a little Sugar; of which give a Horſe about half a pint at a time, two or three times, with a day or two's intermiſſion between each time.

Swine

Swine are generally of two ſorts, the ſmall wild Black, *China*, or *Weſt-India* Breed, and the great *Leiceſterſhire*. Between theſe are alſo ſeveral ſorts and mixtures. The firſt indeed makes delicate ſweet Pork or Bacon, alſo pickled is moſt dainty Food: they fatten for Pork in about three Weeks, and for Bacon in proportion; and I have known them to weigh near twenty Stone when killed for Bacon. The great Sort will ſometimes weigh fifty Stone. I give mine Antimony in Powder, as much to each as will lie on a Shilling, two or three times a week, in their Waſh or among Peas, which gives them a Stomach, and preſerves them from the Garget and Meaſling.

Sheep are the moſt neceſſary and beneficial of all other Beaſts upon a Farm, and where they are not kept, a Tenant's Deſtiny may eaſily be read. The Rot in Sheep is the greateſt Misfortune belonging to them. It is cauſed by too much Moiſture, by Water and Snows, which by their weight and diſſolution mix and waſh the Graſs in with the Earth, and ſo cauſe a Froth or Scum, which the Sheep thro' hunger and novelty greedily devour to their deſtruction; it is alſo occaſion'd in the Spring or Summer by a Putrefaction in the Air and Graſs, eſpecially in the Vales and Marſhes, and is known oftentimes by the Cobwebs on the Ground and Hedges, which hold a wet or moiſture,

and

and is of a poiſonous nature; therefore the Farmers, particularly in the Vale, don't unfold them till nine in the Morning, that the Sun may dry them and the Graſs. They are alſo killed by means of a Red Water or Serum that is occaſioned by too much Moiſture, and ſometimes die by eating the Glow-worm, or Canker-worm, as ſome call them.

To prevent then the Rot or Red Water, ſome even at Midſummer will give them Straw or Hay; which has ſaved many a one, when others about them have died, that did not eat dry Meat. A Gentleman near me bought a parcel of the large *Oxfordſhire* Pole-Sheep; ſeveral of them dying of the Red Water, the Shepherd gave the reſt Hay in the Fold, and ſaved them. Rotten Sheep will, in the beginning of the Rot, fatten ſooner than ſound ones; and the way to know them in the Market, (which they are generally brought to, ſo ſoon as diſcovered) is to feel the Cod of the Weather, and if there is on it a dry Wax or Scurf, he is rotten; but if moiſt and wet, he is ſound. And ſo the Ewe will be between her Legs. Alſo if the innermoſt part of the White of the Eye has ſtreaks of red, it is a ſign of Soundneſs; but this is often forced, by putting before-hand Pepper into the Eye, which will fret it into a redneſs. Alſo the Gums and Mouth of a rotten Sheep will be white.

To prevent and cure a rotten Sheep that is not too far gone.

Take Bay-Salt and ſtamp it well, and after the Sheep has fed a day or two on clean dry Oats, put ſome of it amongſt them, and after that a greater quantity, till ſuch time as they begin to diſtaſte it; then give them clean Oats a day or two, and after that ſerve them with Salt as before. This courſe being followed until their Eyes have recover'd their natural colour, they will be perfectly cured. This meat ſhould be given them in wooden Troughs in Barns, and their Dung and Stale will anſwer the greateſt part of your expence; but if you have not that convenience, it may be given them in the open Air.

For the Skit or Looſeneſs in Sheep.

Take Salt, Allum or Chalk, and give it in ſmall Drink or Water, and it will knit and help them preſently.

Another Receipt to cure and prevent the Rot in Sheep.

Take the Regulus of Antimony, ſold at the Chymiſts or Apothecarys, and ſteep it in Ale, with a little of the Spice called Grains of

of Paradiſe, and a little Sugar; give it two or three times with a day or two's interміſſion between each time. To a Sheep give about two or three Ounces at a time. This muſt be done in time, before the Liver is too much knotted, and that may be partly known by killing one or two, by which a judgement may be made of the reſt.

But as the Proverb ſays, *The obſtinate man ſeldom wants woe*; ſo I have known ſeveral loſt their Flocks by their *Indolence*, and kept them on in hopes of their knitting, and recovering by the alteration of Weather, when they might have diſpoſed of them early, and loſt but little by them: Therefore I doubt not but theſe Receipts will be of ſingular uſe when publickly known, in being a means to prevent this loſs and trouble. For this Regulus of Antimony is a univerſal Remedy for moſt Diſeaſes in Men and Beaſts. It is a Chymical Preparation made with crude Antimony, Nitre and Tartar, and corrected by the Spice and Sugar. It alſo cures the Farcy in Horſes, as aforeſaid. Every Apothecary can give further information of theſe moſt excellent Ingredients. The larger the Sheep, the leſs power the Rot has; for the ſmaller ones are ſooner overcome by it. In our Chiltern Hilly Country, the Weſtern white-faced Sheep prove the beſt of any, becauſe they come off a ſound Lay of Ground, from the great

great Commons or Downs of *Wiltſhire*, &c. But I knew a Gentleman by me, that ſent down to the remoteſt parts of *Wales* for a Flock of hardy ſound Sheep, as indeed generally the *Welch* are; and the conſequence was this: they being kept on Mountains, and at their full range in open places, when they were brought into Encloſures, (notwithſtanding they had a careful Shepherd) ran ſome one way and ſome another, till a pretty many were loſt. The Gentleman on this told the Shepherd, he ſhould pay for them all, which ſo affrighted him, that he ran away too. The long looſe-wool'd Sheep are not ſo good as the Weſtern cloſe curl'd-wool ones are, becauſe the firſt after they are wetted, are ſometimes a Week before they dry, to their great prejudice; nor are they of ſo hardy a nature. It is a common way for the Vale-men, when they find the Rot has begun in their Flocks, to pay the Chiltern-men for letting them feed on their Commons a few Months, in order to knit and recover them, which indeed often happens by the change of the Air and Ground; but even where the Commons are not ſtinted or limited to a certainty, the reſt have brought their Action (or at leaſt threaten'd it) againſt the culpable, for their invading their Right of Common, by ſurcharging the Common with theſe ſort of Sheep; ſo that their Cure by theſe Means

is now generally hinder'd all over the Nation; which, I preſume, will make theſe Receipts the more acceptable. My good Friend and Neighbour, Mr. *Timothy Garret*, bought ſome Weſtern Lambs, about *Alhallontide*, and turned them into his Orchard, where they grazed till the Snow fell, when they lay ſcratching after the Graſs, and would not eat Hay; by this he loſt the biggeſt part of them: And ſince, he takes them into his Yard, and gives them Hay or Straw, ſo that they cannot come at any Graſs, they live and do very well.

A Rotten Sheep, he ſays, he has ſeveral times ſeen die with Plaiſes in their Liver and Head; this Plaiſe is a live Worm about the breadth of one's Finger-nail, and feeds and preys on theſe parts. Another Remark is this; at *Hudnal*, a Farmer had a Wether Sheep took with a giddineſs, which increaſed ſo, that it could not ſtand; on this, the Farmer ſold it for Eighteen-pence to a poor Man, who immediately knock'd off that Horn that lay next the Ground, and there appeared a ſmall Bladder like that of a Fiſh, which he took out, and put a little Wool in the place dip'd in Tar, and ſew'd it up. This Sheep did well, and was ſold afterwards for nine Shillings.

This, as well as the firſt caſe, undoubtedly was occaſion'd by the corruption of the Blood in the Animal, which my Remedies before

mention'd directly ſtrike at, by warming, drying, and altering the whole Maſs of Blood; and therefore if given in time, by conſequence will prevent and cure theſe and the like diſaſters.

Another Receipt to prevent the Rot in Sheep.

Take a Peck or better of Malt, and maſh it as though you would brew it into Beer or Ale, and make eleven or twelve Gallons of Liquor; then boil in this Liquor a good quantity of Herbs called Shepherd's-Purſe, and Comfrey, Sage, Plantain, Pennyroyal, Wormwood and Bloodwort, of each a good quantity, and boil them in the ſaid Liquor very well, then ſtrain them forth, and put a little Yeaſt therein; after that, put a Peck of Salt, and tun and put it up in a Veſſel. Then give it your Sheep in wet Weather after *April* comes in, ſeven or eight Spoonfuls a-piece, once every Week, if the Weather be wet; if it be dry, you need not ſo often: and thus continue till *May* and after, as you ſee cauſe, according to the dryneſs or wetneſs of the Weather. Give them now and then a lick of Tar mix'd with Herb *de Grace* chopped, and it will cleanſe the Bowels of much Corruption, and be healthful to the Blood.

Objection.

Objection. It is ſaid, that ſuch Cover for Sheep in the Fold, as is before mentioned, will be too hot for them, as they are naturally a Beaſt the beſt arm'd againſt Cold, and that it has been fatal to ſeveral, on account of the ſevere Weather that they are expoſed to, out of the Fold, and when the Folding is over for the Winter in *February* and *March.*

To this I anſwer, That too much Cover may be as bad or worſe than too little; but as the Vale-Farmers in ſome places lay ſome long furzen Faggots juſt within the Fold, and againſt the windy quarter, I think it may do well. A great Farmer by me is going to draw half his Fold-Hurdles with Straw-bands, to break off the Winds this Winter from the Sheep in Fold.

Tame Rabbits.

TAme Rabbits are great Improvers of a Farm by their Dung, which is ſold here for Sixpence a ſingle Buſhel trod in, and is chiefly uſed to harrow in with Barley and Graſs-Seeds. They are more profit by far in Hutches than in Pits. Their Seaſon is from *Chriſtmas* to *Whitſuntide*, and when their Skins are clear without Spots, a ſingle one is worth 4 *d.* or 6 *d.* The main Art of keeping theſe Creatures, is to preſerve them from Tunning, or being Pot-belly'd; and therefore when fed with raw

Grains, Hay muſt be always given with them, in the little Apartment of the Hutch, to dry up the moiſture of the Grains; and when fed with Bran, or other dry Meat, Greens muſt be given to anſwer their drowth. Commonly we keep the young ones with the Doe two Months, and at five Weeks end let her take Buck, that the former Brood may go off before ſhe kits about a Week. Pollard mix'd with Grains, or made into Paſte with Water, and given three times a day, is very excellent Food for them. Ground Malt helps to recover the young ones when tunned; Barley alſo juſt broke, is very good. If a convenient place can be had to let young ones run in cover, or out at pleaſure, they will thrive with leſs meat. They mightily love to brouze on Pea-ſtraw or green Furze. If Bran is given alone, it ſhould be long Bran; but to mix with Grains, it ſhould be ſhort Bran or Pollard. I never try'd it yet, but am of opinion, that *French* Wheat muſt be fatning Food for the young ones: and when they are ſo, they ſell beſt to the Higler at ſix or eight Weeks old. A Doe goes thirty-one days; and generally one time with another, brings ſix, which indeed is enough for any one Doe to bring up and fat. The beſt time to ſave young ones for Breeders, is in *March*; and then with good meat, clean uſage, and cloſe attendance, they will take Buck about *Alhallontide*, and

and ſo enter the Seaſon with the ſale of their firſt Litter. A Doe is reckon'd to pay 10*s.* a year clear, and that her Dung will pay for Grains. Some there are that have gelt the Bucks, in order to make them larger and ſweeter; but as I yet never experienc'd the ſucceſs, I can write no further of it. The ſweetneſs and good reliſh of their Fleſh, undoubtedly is a very deſirable thing, and then they are certainly more wholeſome; and this, in my opinion, is to be obtained, firſt, by ſuch Food as will occaſion it; as good Oats, Barley, Pollard, and freſh hearty Grains, Greens, and Hay. Secondly, By keeping their Hutches thorough clean, and carrying away their Dung to ſome diſtance. And, thirdly, by keeping them in a wholeſome ſweet Air. For all living Creatures muſt ſubſiſt by Air, and be better or worſe affected by it, as it is good or bad; according to the Obſervation of a Gentleman, who ſaid, he never eat ſo ſweet a one in *London*, as he did here; becauſe, as he ſaid, the Hutches there ſtanding in cloſe places, and in a groſs Air, is apt to taint their Fleſh.

The common way of killing them by ſtriking them behind the Ears only, is not ſo well, by reaſon of the great quantity of Blood that ſettles in the Neck, which by the new practice is moſtly prevented. As ſoon as they are ſtruck with the Hand under the Ears, then immediately jobb a penkniſe

into the Throat, and give it a launce towards the Jaws; this will let out the Blood till they become white.

Another way is to kill them as they do a Turkey, by ſlitting with a penknife the Palate of the Mouth: This is reckon'd the moſt cleanly way of all.

PIGEONS.

PIGEONS have ſeveral Natures and Names. The Tame or Houſe-Pigeons are called Barbels, Jacks, Crappers, Carriers, Runts, Horſemen, Tumblers, and Great Reds. The Barbel has a red Eye, a ſhort Tail, and a Bill like a Bullfinch. The ſmall Jack-Pigeon is a good Breeder, and hardy; has a turn'd Crown. The Crappers are valuable for their ſwell. The Carriers for their ſwift return home, if carried to a diſtance. The Horſeman-Pigeon is ſomething of the Carrier's nature. The Tumblers for their pleaſant agility in the Air. The Runts for their good breeding and bringing up their young ones. The Great Red for their largeneſs. The Turn-Tails, for their turning them up almoſt to their Back. And the Black-Head is a white Pigeon with a black Head. Several of theſe are often preferred for their Beauty, but the moſt common are the Runts. Generally in about half a year's time the young ones may be paired, by putting a Cock and

and a Hen into a ſmall Coop-hutch, where ſometimes in an hour or two, and ſometimes not under a day, two or three, they will pair, which is known by their billing and cooing; the Cock's calling the Hen, and the Hen ſpreading herſelf before him. They breed almoſt all the year, except Moulting-time. It's common to croſs-match them, and they'll breed the better; and ſhould be fed all the Year, except Seed-time and Harveſt. The former holds about a Month, and the latter three, even to *Alhallontide.* Some always give them meat throughout the Year, becauſe, ſay they, before they'll be forced out to get their living abroad, they'll ſtarve ſome of their young ones. Others, as Farmers, will give them no meat all the Year. Theſe Calculations are for the Country, where meat is plentiful at thoſe two Seaſons; and at others, at the Barn-doors. Forty Pair is reckon'd to make about twenty ſingle Buſhels of Dung a year, and is here ſold for 10*d.* the ſingle Buſhel heaped. It is ſaid, this number well look'd after, will maintain a ſingle Man. A Garret or Room about twelve by twenty feet will contain that number; too much room hinders their increaſe, as well as too little. They commonly hatch within the three Weeks, lay generally two Eggs, and about three Weeks after hatching, they are fit for Market. This number will eat a Buſhel of Peas or

Tares in a Week, beſides half a Peck of Hempſeed, which fattens the young ones very much, and is made uſe of by the Higlers to cram them on the Road in their way to *London*; where, at the Seed-ſhops, it is often ſold for half a Crown the Buſhel. They ſhould have conſtantly ſeveral little Bins by them, to let out their meat gradually into a lower Trough, as they conſume it, which is a means to keep them from ſtraying; this with freſh Water and Gravel, will keep them at home, without the Salt-cat and other contrivances. Indeed ſome Cummin-Seed is eſteem'd very good for its Scent to be kept conſtantly in the Pigeon-houſe. An old Pair of Pigeons may be brought from another place, and will ſeldom return, if they are kept in till they breed.

Hedging.

In wet Grounds, the Aquaticks are beſt to plant for Hedges, either by Roots or Truncheons, as the Alders, Arbeles, Willows, Sollars, Black Poplar, and others; but in dry Grounds, the White-Thorn and Sallow make the beſt of Hedges; the Sallow to be planted juſt within ſide, and the White-Thorn without: by this means when it is at its maturity, you may cut the Sallow twice to the White-Thorn's once. And here we commonly make our Hedges once in

in nine Years, when Wheat or Barley is ſown in the ſame Field. Sallow will grow from the very Stakes: but Setts planted with good Roots will come quickeſt. In caſe you make an intire new Hedge, throw up a Bank by making a Ditch; let this Bank be ſomewhat hollow in the middle, then in the Spring-time, cover the Roots of the White-Thorn well with Mould, and make holes with a Crow or other thing, and ſtick in Truncheons or pieces of Sollar about two foot long ſlopewiſe, with a ſloping cut on the top, that the Rain may the better deſcend to the bottom; and put ſome Horſe-litter in the middle of the Bank, to keep the Sun and Air from drying the Sets. The Sheep and other Cattle are apt to damage the Sollar, be it old or young; the one by debarking, and the other by cropping the Tops. To prevent this, take Cow-dung, mix it with Water in a Pail, and with a new Broom throw it on thick. Or take Lime, and ſerve it ſo; or take Dirt and rub the Sollars well with it; and if waſh'd off by the Rains, renew it. Others will make an Hedge with all Beechen Setts, eſpecially on the chalky Grounds, which they pull out of the Woods, about two feet long; but then the Heads muſt not be cut off, as the White-Thorn or Sollar is: for then they won't grow. There is one Objection againſt this latter; *viz.* That it will quickly

quickly after making, riſe and become hollow; but this with care may be ſupply'd: and indeed, there is encouragement from this Plant ſo to do; becauſe it will return much Wood, as being of the Tree-kind. I planted one about fourteen years ago, with Cherry-Trees in the ſame Hedge, at conſiderable diſtance, ſeveral of which I have ſince budded; and both Them and the Hedge, for forty Pole, thrive to admiration. Nor will Cattle eat this ſort of Hedge ſo ſoon as they will Sollar or Aſh. I am this Winter, 1731, going to do the like on the ſame length of Ground, by taking in a piece of common Field-Land; in order to which, I run along the Plough, and throw'd up three or four Thoroughs, by which the Ditch and Bank is half made at a very ſmall expence. The Horn-Beam or Horn-Beech, is ſaid to make the fineſt Hedge; but about us, we chiefly make uſe of the White-Thorn, Sollar, and Beech, and reject the Aſh, Hazle, and ſome other ſorts.

Planting.

TO Plant a Fruit-Tree, as a Standard, or againſt a Wall or Eſpalier, there are diverſity of ways preſcribed by ſeveral Authors: But as I am very ſenſible there are ſome groſs Errors inſerted in ſome of their Books, as well as ſome very uſeful Rules

Rules in others, I therefore ſhall be very wary in writing on this Subject. And as my talent lies chiefly in Field-Planting, I will be the more particular in writing of this moſt uſeful Science; becauſe a Miſtake in the beginning, proves often fatal, and is not ſo eaſily rectify'd afterwards, without great and too dangerous violences. From hence proceeded that grand Diſcouragement that has ſo much prevailed over this Nation in general, and is chiefly the Cauſe of the great Scarcity we are at this time under for want of more Plantations of Fruit-Trees, and eſpecially Apples and Peais. And as Examples are beyond Precepts, and the greateſt encouragers or diſcouragers of Arts and Sciences; ſo in this of Planting, it has its peculiar tendency for the better or worſe: but I think at preſent moſt of the latter. And here I have made many obſervations in my Travels with a concern'd view of whole Plantations ſet too deep, which by conſequence not only diſappointed its Owner of his hopes and profit, but alſo proved a forbidding Article to the Neighbourhood not to plant, leſt it ſhould be as fatal as it was to Mr. Such-a-one. And, indeed, to ſay the truth, there is no miſtake more common than this of Planting Fruit-Trees too deep; and yet nothing is more deſtructive to them, eſpecially in ſome Grounds too much ſubject to wet and moiſture, nor tends more to keep

Trees

Trees in a ſickly, unthriving condition, and conſequently from bearing either much or good Fruit. A Gentleman near me, by purchaſe came to a large Apple-Orchard that had been planted ſome years. The Trees were great ones, but return'd little Fruit; this provok'd him to enquire the Cauſe, and found it to be deep Planting at the firſt; for the Man dug ſometimes Breaſt-deep before he could diſcover a Root, and the Soil, after a Spit-deep, was red Clay on a high Ground. In the room of theſe Trees, he has planted young ones, but after a different Mode. I muſt own, where the Soil is naturally exceeding dry, and lies on a declivity, that will quickly carry off the Winter wets, the fault may be leſs dangerous: but except there be a ſufficient depth of natural good Earth above the Rock, Gravel, or Clay, the Evil complain'd of, will there quickly diſcover itſelf, after four or five Years; when the Roots of the Tree will be ſtarved by a hungry Gravel, Sand, Chalk, Rock, Clay, or whatſoever the bottom be, that lies too near the Surface. On all accounts therefore, it is much the better and ſafer way to plant high, provided care be but taken the firſt and ſecond Year to keep the Roots tolerably cool and moiſt, yet not to ſubject them to too much Wet in Winter; for Summer Wet never hurts them.

Of

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Of Planting Standard-Trees.

Various are the ways uſed both by Gardeners, and my neighbouring Farmers, in Planting Standard Fruit-Trees. And that the Reader may judge which is the beſt, I ſhall here ſet down ſome, I think, of the worſt Methods, as well as the beſt, I know of. There are ſome that directly dig up the Mould, and make a hole; in the bottom of which they plant the Tree, and ſo cover it up, by throwing juſt the ſame Mould in again, and leaving it. Others, thinking themſelves more careful, will drive in one Stake, and wythe it about the Tree. This is a ſad way indeed, and muſt end in the Tree's deſtruction; for altho' it may live, and grow in Wood and Fruit ſome Years, yet it can never anſwer to advantage either in the one or the other. And a caſe ſomething of this nature was acted by a Lord of a Mannor, in which lay a fine high Common; he being deſirous to improve it, tranſplanted a conſiderable number of young Timber-Trees out of the Woods: The Soil was a hurlock chalky Rock, about four or ſix Inches below the Surface, between which and the Top, he planted his Trees; nor could I perceive any Mould about them above the common level: and, notwithſtanding he was at a great expence, for a Cart,

Horſe and Man to water them during the firſt Summer, yet afterwards they dwindled, and did not anſwer. Now, by this Miſtake he loſt his Trees, the great charges of watering them for a long time, and ſo much precious time, which would (if rightly made uſe of) have gone a conſiderable way in their Growth. Therefore, happy is he who by others harms learns to beware. The true caſe then of this matter, as I take it, ſtands thus: Inſtead of Planting tall, large-body'd Trees on ſo high and naked a Situation and ſhallow Soil, I would have put a more young, ſlender and ſhorter Tree, in the following manner; *viz.* Pare as thin a Turf off as poſſible, then take up all the Mould, even to the Chalk or Hurlock; this done, put the Turf upon the ſame, the Graſs downwards, ſpread a little Mould on the ſame, on which plant the Tree, and cover it with the reſt of the Mould. Upon this again ſpread a good parcel of Fern-litter, or other ſuch ſtuff; then put two, three, or more Wheelbarrows of Virgin or other Mould, about ſix or eight Inches thick, in the form of a Baſon, about three or four feet over, as your Root is more or leſs large. The next thing is to ſecure the Tree againſt the furious Winds, the Bite of Sheep, and the Rub of them or larger Cattle; and that is done by driving two large Stakes oppoſite to each other, ſo that each may be about three or four foot above

above the Ground, and about four or ſix Inches from the Body of the Tree on each ſide. Then nail four Croſs-Bars to the Stakes againſt one another, two at top, and two towards the bottom, ſtuffing Graſs, Hay, Straw or Fern between the body of the Tree and the Croſs-Bars, to keep it from galling; then take black or white Thorn-Buſhes, and draw them thick between the Croſs-Bars, from the top of them and higher, down to the bottom; always remembring to make uſe of thoſe Stakes that are thicker than the body of the Tree, that there may be a ſufficient hollow, between the Tree and the Croſs-Bars; and to keep the Tree more firm, wythe it to them. When this is done, there remains but one thing more to compleat the Planting of a Tree, and this is ſo perfectly neceſſary, as not to be omitted: With a Spade firſt give a circular cut about the Baſon-heap of Mould; then ſix or eight Inches back from that, give another circular cut, and turn up all the Turf, letting it lie with the Graſs-part downwards, ſlopewiſe and joining the ſaid Baſon-heap: by this, there will be a round Gutter, which at all times is ready to receive and make a lodgement of all Rains that ſhall fall, and will ſufficiently ſupply the fibrous Shoots with Moiſture, as they gradually proceed from the Maſter-root. And here ends the Plantation of a Tree for the firſt time; but then is it not wholly

wholly done with: For either in the third, fourth, or fifth Year afterwards, as the young Shoots puſh more or leſs forward through the ſaid Gutter, which is beſt known by the Growth of the Head of the Tree, you are to make ſuch another Gutter as is before mention'd, to meet and water the ſucceeding fibrous Roots; and ſo renew the ſame, as time and judgement will beſt inform you. Now, let us conſider here the Benefits which accrue by this Method of Common or Field-Planting: Firſt, then, by the Turf and Mould which is placed under the Tree, the Roots are hinder'd, for a conſiderable time, having to do with the Hurlock or Chalk Soil. Secondly, They are hereby encouraged to grow ſpreading and quick, by means of the toughneſs of the Turf, and the fertile Salts which are in the ſame. Thirdly, The Fern or Straw, by being placed between the two Moulds, becomes a Watering-pot to the Root, and by the help of the upper Mould, laid in a Baſon-form, ſhelters and ſhades the ſame both from the Sun's and Air's too violent Influences. Laſtly, The great Charge of Man, Horſe, and Cart is prevented, and the Tree ſecured with a trifling Coſt from all ſorts of Cattle.

Another

Another way,

As practiſed by a Nobleman's Gardener, on a pretty deep Loam, under which was a red Clay, is this: Firſt, he cuts a Circle with the Spade, of about three feet diameter, more or leſs, according to the largeneſs of the Root; then he cuts and takes off the Turf in ſeveral pieces, and lays it by itſelf; then he takes up all the next Mould for about a Spit deep, and lays that by itſelf, and ſo the next Mould which is worſer, he ſerves the ſame; in the place of which laſt, he puts the Turf-Graſs downwards, then about half of the beſt Mould he ſpreads over it, on which he plants his Tree, and covers its Roots with the reſt. This again he lays all over with Wheat-ſtraw, and with the reſt of the Mould, and two or three Barrows of ſome other in a Baſon-like manner, makes a Trench round the ſame, ſtaking and buſhing it up, as before mentioned.

Another way,

Is what I have done amongſt others; and that is, Planting a Tree upon the common Graſs Surface or Level, without any manner of breaking the Ground, eſpecially where it is of a wet nature; and upon the Roots put two, three or four Barrows of Virgin-Mould,

and Fern and Straw between the ſame, in a hollow faſhion, with a Trench round it, and ſo ſtake and buſh up. This way I have found to anſwer extreme well, as to tranſplanted large Cherry, Pear and Walnut-Trees. But here, I muſt confeſs, that the hardneſs of the Turf does not give the Roots leave to run ſo faſt at firſt, as others do that are planted in looſe Mould, ſo that they will be longer before they get hold of the Ground; but when they have, they generally run faſter than others, and, indeed, make the largeſt Trees of all others: for to ſay the truth, upon a due Obſervation, the biggeſt and beſt Trees are found to be thoſe that lie higheſt with their Roots in the Ground, as is their Fruit; as I ſhall hereafter explain. The Reaſons of this, I preſume, may be owing to the Graſs-Ground, that naturally attracts and draws the Roots into it; which top Earth being full of the beſt nitrous and ſaline Qualities, and more expoſed to the Sun, Air and Rain, give an extraordinary advantage to the quick Growth of Trees, in time, even beyond thoſe which are more hid and covered in their Roots from thoſe benefits. But I don't find that an Apple-Tree, and ſome other ſorts, will quite ſo well anſwer, becauſe their Roots being of a more tender, ſoft nature, are not of that ſtrength, to enter and penetrate the hard Cruſt of the Earth; altho' I have now growing

ing ſeveral fine Apple-Trees on this ſort of Plantation. However, I am ſenſible there are Objections made againſt this Method: For it is ſaid, That a Tree in this caſe is more liable to be blown down by the Winds, becauſe the Roots are not envelop'd enough in the Earth, to have ſufficient hold: And, again, that they can't be ſo well water'd for want of a Trench. But to obviate this, I think the due ſtaking up a Tree for a few Years, and keeping a ſufficient quantity of Horſe-litter on the top of the Border about the Tree, both Summer and Winter, is ſufficient to indemnify it againſt Wind, Sun and Air. I am ſure I have found it to be ſo, in ſeveral inſtances of this nature. But I have heard, that a Gentleman, paſſing by a Plantation, ſhould ſay, The beſt way was to put a thin Layer of Virgin-Mould on the Graſs-Ground, and plant your Tree upon that, directly after the before mention'd manner. Now here is a requiſite Obſervation to be regarded in the performance of any of theſe ways, and that is, That the upper Bed or Layer of Mould that is thus put upon the common Surface or Level of the Ground, muſt not be too thick; for this, as I have found to my coſt, will rather hinder, than forward the Tree's Growth; becauſe, as I ſuppoſe, too much Mould keeps the Sun, Air and Water at too great diſtance from the Roots, whereby they become dry, mouldy

and rotten; or, if they ſhould chance to ſurmount theſe diſaſters, they grow but at a poor rate: So that a thin Coat of Earth, about ſix or eight Inches thick, is often ſufficient. But this piece of Management muſt be according to the Proportion of the Root. Which leads me to another Remark of this nature; *viz.*

Planting of Fruit-Trees in Fields and Cloſes.

Field-Planting in this, as well as in ſeveral other Counties of this Kingdom, will, I ſuppoſe, be thought ſomething ſtrange at firſt, by reaſon of the common Objections.

Who would expoſe fine Fruits in the open diſtant Fields to rapacious Hands, and the devouring Beaks of Birds? *&c.*

Therefore, as I now engage myſelf in an Introduction chiefly new to the major part of this Nation, I ſhall endeavour to anſwer theſe common and diſcouraging Obſtacles, which have hitherto hinder'd, to a very great degree, the Propagation of Fruit-Trees, by laying down ſuch Reaſons, as I hope will be as prevalent with others, as they have been ſucceſsful with me. Firſt then, ſuppoſe a ſquare Field or Cloſe of forty Poles long every way, the middle part of which is ploughed Ground; on the four ſides of that are Baulks of Graſs-Ground of forty feet broad;

broad. Along the middle of theſe Baulks, I plant my Fruit-Trees at thirty three Feet or two Poles aſunder, which will contain at that rate twenty Trees on a ſide, or eighty in all, be they Apples, Pears or Cherries, *&c.* Indeed Walnuts, as they generally have the largeſt ſort of ſpreading Heads, ſhould be planted further off one another: but Trees at this diſtance, I think, may anſwer very well, conſidering there are none on the two ſides of them, and therefore have room allowed them for the Sun, Air and Rain to come at the Ground about them, and the Graſs not ſour'd by their too cloſe Cover. But this is left to the diſcretion of the Planter, who may perhaps think forty, fifty or ſixty feet diſtance much better; and, indeed, I muſt ſo far join in his Sentiments, as to think him moſt in the right, where he can eaſily ſpare his Ground: For certainly the Fruit has thereby a greater opportunity of ripening on all ſides more gradually, and at nearer a time, and the Graſs rather better under their drip. But my Dimenſions here are calculated for the medium way, and where a Man is to make the moſt of a little Ground; for I have often known the Graſs to be a greater burden in ſcorching Summers under the ſhade of Trees, than otherways. And by ſowing Soot, Aſhes, or Lime, *&c.* in the Winter-time on the Ground in the diſtance of their ſhade, prevents the common com-

plaint, of the drips ſouring the Graſs. The Rows of Trees being thus planted in the middle of the Graſs-Baulks, according to the Plan here laid down, is for theſe Reaſons: Firſt, The Cart has room on either ſide of them to paſs and repaſs. Secondly, They are at ſuch a diſtance from the Hedge, and plough'd Ground, that neither the Heads nor Roots of the one or the other are capable of receiving prejudice by too cloſe Planting, but has a ſufficient Plat of Ground allotted each Tree for its due Nouriſhment. Thirdly, The Plough-Team has room to turn on the outer-part of the Baulk, without damaging the Trees or themſelves. Fourthly, The Hay may be made much better than in an Orchard, where the promiſcuous Shades of their great Numbers proves often very fatal to their Owners. Fifthly, A Fruit-Tree ſo planted in a Field, has much more the benefit of the beſt of Dreſſing; which is the Dung and Stale of Cattle, who are fed in the ſame Field by Turnips, or ſow'd Graſſes, *&c.* An Inſtance of this has been obvious to many, in the Largeneſs, haſty Growth, and good Bearing of a Cherry-Tree in my Home-Cloſe, which is a plough'd Field; under this Tree the Cattle uſed to lie and ſhade themſelves, when it was fallow, ſow'd with Turnips or Graſs-Seeds, and was one of the largeſt Trees in theſe parts; and tho' a wild Cherry,

I have ſold the Fruit for a Guinea on the Tree, clear of all Charges. How much then muſt a Field-Tree have the advantage of a pent-up Orchard-Tree? So likewiſe are thoſe Trees planted next a Road-way, whoſe Roots are dreſſed by the Sullage of the paſſant Cattle; and which, if obſerved, may eaſily be perceived to excel thoſe by far that are planted more in the in-ground. But here I would be underſtood not to be a Votary for planting Fruit-Trees in Hedges, except for the Road ſake, becauſe the Roots of the Hedge are ſo many Thieves about its Root, and impede its Growth: and if by length of time it grows large, then another Evil enſues, which is, that its Head by the drip often kills or damages what grows under it, beſides the Misfortune that accrues to the Hedge by People's getting the Fruit. This Standard Field-Planting is vaſtly preferable to Half-Standard Dwarf and Wall-Planting, becauſe of late Years ſeveral ſorts of rich Fruits which have been ſhelter'd by Mats, and other contrivances, have been diſcoverd to proſper as well or better in the Field on whole Standards, and bore much greater quantities of Fruit at leſs expence, and better taſted, than thoſe on Walls or Eſpaliers; becauſe part of their Fruit by the Shade is hid and kept from the Sun's Influence, which makes them generally ripe on one ſide, and unripe on the

other: witneſs the incomparable *May* Duke-Cherry, ſeveral ſorts of Pears, *Orleans*-Plumbs, *&c.* And even in the Vale of *Aylesbury*, where they reckon no Cherry-Tree will rightly proſper in that naked Country; there, I ſay, this *May*-Duke will grow and bear conſtantly, as in other places. Here alſo is the great Expence ſaved of pruning, nailing and tying, which in Half-Standards, Wall-Trees, and Eſpaliers amounts to conſiderable Charges, and which not only takes up much precious time, but ſhortens the Life of the Tree; whereas a Standard is rather hinder'd than furthered by the elaborate practice of the Knife. What a charming ſight is a large Tree in bloſſom, and after that, when loaden with Fruit enough perhaps to make a Hogſhead of Cyder or Perry! A Scene of Beauty, Hopes, and Profit, and all! It may be on leſs than two feet diameter of Ground. And above all, what matter of Contemplation does this afford, when we let our Thoughts deſcend to a ſingle Kernel of an Apple or Pear? And again, how heighten'd, on the beholding ſo great a Bulk raiſed and preſerved by omnipotent Power, from ſo ſmall a Body?

There is alſo another lamentable Objection belongs to this Field-Planting, by the Vulgar and Ignorant; whoſe Argument againſt it is, That the diſtance of the Fields from the Houſe expoſes them to loſs. But when

when I write of Planting abroad, I mean ſuch to anſwer Delight and Profit, as are ſomething numerous, which I think a hundred or two of Trees will; and then I am of opinion, by the care of a Looker-after during their ripening Seaſon, the Fruit is ſafer than in a contiguous Orchard: For in a Town or Village, the Boys are moſt plenty, and their Eſcape is at hand, when by the remoteneſs of the Fields, they can't ſo eaſily clear themſelves. Beſides, this perhaps may not be an extra-charge, if the Overſeer can occupy himſelf in other buſineſs near the place. This is annually done in and about the *Kentiſh* Cherry-Orchards and Plantations. In the Year 1728, his Grace the Duke of *Bridgewater* was ſo good as to give me leave to take up a ſcore of wild Cherry-Trees out of one of his adjacent Woods, about twelve Years old; theſe, with their large Roots, I tranſplanted on the Graſs-Baulks of a five-acre ſquare ploughed Field, in Rows, with no other Earth than what I found in the place: Thus, I made a circular hole, and put the Turf firſt down, with a little looſe Mould on the ſame, on which I planted my Tree, then I put ſome Fern, and cover'd it with the reſt of the Mould; by this Method there became a hollow place all about the Roots: and notwithſtanding the ſucceeding Summer was very dry, they grew and flouriſh'd very well,

well, and on the 13th day of *July*, 1730, I budded them with a *May*-Duke, on the new young Shoots that followed after cutting off the old natural Head when I planted them. Here the Roots were intirely envelop'd and cover'd in Virgin-Mould, the greateſt promoter of Vegetation; and by putting no additional Mould, the hollow about them received the Wets in a more ample manner; the Sun and Air had free acceſs, and even the very ſulphureous and nitrous Dews, I believe, were not a little ſerviceable: which plainly diſcovers the excellency of this ſort of Planting; for had there been put another Coat of Mould more than the place naturally afforded, then I don't ſuppoſe theſe benefits would have been ſo propitious; becauſe they, eſpecially the latter, would not have had an opportunity of coming ſo free and quick at the Roots, which by only having a thin covering of the natural Mould, are expoſed more immediately to the vivifying nutritious Particles of Heat, Water and Air. But indeed, to be more ſecure, I generally put ſome looſe Horſe-litter only, upon and about the whole Border, by way of ſafeguard againſt extraordinary Droughts and Froſts, that may happen in the Summer and Winter next after planting any Trees. But I dare not uſe the Cherry-Tree as I do the Apple and Pear; for upon theſe I put abſolute

rotted Horſe-dung, Fowl-dung, or Rabbit-dung, to waſh down on their Roots, and ſo let it lie all the Year on the Border. This makes their Head run at a great rate, and as it is an outward application, the Trees are free from the danger of Cankers, which Dungs will certainly produce, if laid to the naked Roots of any Tree when planted; on the contrary, this Virgin-Earth is a direct ſecurity againſt the Canker. Even an Apricot, which is moſt ſubject to it, will live ſound and free in this Mould. However, as a Cherry of all others hates both Dung and Knife, I only venture Horſe-litter or Fern on or about it. And this Fern, as I have experienc'd, is beyond Straw, when laid on the Roots at the time of planting; for as it is of a cold, ſpungy, wet nature, it does its office better, by keeping the Roots moiſt, and will alſo prevent the Mice making their lodgements in the hollow Mould of a new-planted Tree, which they often do, ſometimes to the killing of a Tree; when Straw, that is of a dry hollow nature, invites and ſhelters them and the Piſmires, who likewiſe are often fatal Enemies. Theſe Shelters then are of exquiſite ſervice, when applied above and below the top Mould: And this laſt long, dry Summer, proved the truth of this, and another Invention a Gentleman near me made uſe of to defend the Bodies of new-planted Trees, as well as their Roots:

Roots: he got furzen Faggots, and laid at the bottom, and ſo piled them almoſt up to their Head, which anſwer'd extreme well.

Of the Circulation of the SAP in TREES.

To help barren Trees, and to make others more prolifick.

THE Knowledge of this is certainly neceſſary for all Planters; for by it, a Man is render'd capable of making his Eſtimations in Budding, Grafting, Planting and Tranſplanting, Pruning and Lopping. This Circulation of Sap in Trees, as well as Blood in the Bodies of Animals, is now paſt contradiction, from that famous inſtance of transfuſing young vigorous Sap into an old dwarf Pear-Tree, which was done with ſucceſs by the great Dr. *Bradley*; who planted ſome young Pear-Stocks in reach of the Head of the old Tree, two Stocks within an eaſy reach of the beſt Branches of the old Tree to which they were inarched or grafted, by being inlay'd in the Spring-time of the Year, and were perfectly joined with the young Stocks in leſs than three Months.

By

By this, the old Tree, whoſe Fruit through Age had dwindled to but little bigger than a Hazle-nut, bore larger Fruit than ever, and afterwards became ſo firm, that he was obliged to check it, by ſawing it half thro', and driving Wedges in; but this did not check it enough, for he ſaw'd the old Tree intirely from its Roots, and then it bore Fruit for ſeveral Years. A Pear-Tree, as I hinted before, will endure planting on the very Cruſt or Turf of Graſs-Ground, and is of ſuch force in its Roots, as to make its way thro' the Creviſes of a ſoft Rock, and therefore will do in any Soil; and if I was to plant Fruit-Trees on a Gravel, I would there plant the Pear ſooner than an Apple or Cherry, becauſe the former will grow and flouriſh, when the other will languiſh and complain. And for want of a due Knowledge of this, many Perſons have ſuffered very much in their Plantations; and certainly, 'tis of great conſequence to plant a right Tree on a right Soil, and to a right Aſpect. A Pear-Tree is one of the moſt luxuriant Trees that grows, and where the Soil is *à propos*, it will grow to a prodigious Magnitude, and return Fruit anſwerable; as the Relation is of one in *Hereſordſhire*, whoſe Fruit in one Seaſon made ſeven Hogſheads of Perry; a fine vinous Liquor indeed, if made of Pears accordingly. I have made near a Barrel of thirty-ſix Gallons, from one I have

have now growing, which is an Orange-Pear; which, mixed with a red Catherine, is ſaid to make excellent Perry. This large Pear-Tree of mine was ſomewhat hollow thirty years ago; and about twenty Years ſince, his old Head was intirely cut off, in order to make him more prolifick. It then began to throw out great numbers of Shoots at bottom; but by grazing of Cattle about it all the Summer, they check'd it by their bite, and the new young Head proſpered, grew, and bears brave large Fruit to admiration. And where a tall Standard Pear-Tree has got too much great Wood on it, and that canker'd, or full of Moſs, I am of opinion, that this Method is the beſt to renew and renovate it.

The way to alter the Fruit of any old gummy Standard-Tree.

As Cherries, Plumbs, *&c.* are Trees that are attended with a Reſin or Gum, which, in many, iſſues and runs ſo faſt as to cripple and kill them, therefore theſe ſorts muſt be treated in a different manner from Pears and Apples. If you have ſuch a Tree, which does not bear well, through Age, want of Sap, or by too much Moſs or Canker, then cut off all the Head, except a few of the loweſt, ſpreading Branches; for theſe will employ, draw up and give the Sap room

to

to circulate, that the Tree will preſently get a new upright Head; then the very next Summer, or the Summer after, you may bud the ſeveral new Shoots with what ſort of Cherry, Plumb, Peach, *&c.* you like beſt. A Year or two after that, the old Branches may be cut off, and the new Head have the whole ſupply of the Root; but if theſe Branches were not left at the time of Lopping, theſe gummy Trees often die, as I conceive, for want of room to employ their Sap, and the too ſudden total decollation of them, whoſe Ducts and Veſſels have for many Years before enjoy'd a free Circulation. And from hence, often, is cauſed that iſſuing forth of Gum at the Top and Sides of theſe intire lopped Trees, which ſo often proves fatal to them. Now, if it be a hollow or blighted one, the above Method is the beſt way to recover it, and to renew its natural or improved Fruit; as one in our Neighbourhood did: and the hollow Trees bore afterwards as well as ever. And I have now ſix ſound Cherry-Trees growing, that were near fifty Years old when I cut off their old Heads, (as not liking the ſmall wild Fruit that they bore) and put above ten Buds on the new Shoots of each Tree when they were two Years old, and now they have got large Heads in about ſix Years, and bear the white Heart and black Cherroons in my Upland Meadow, through which is a Path-

way

way to *Dunſtable*. And the beſt time to lop them, in my opinion, is about *Chriſtmas* or *Candlemas*, the latter rather beſt; becauſe the longer the Froſt has power of the Cut-part, the more it endangers it: but it muſt be ſure to be done before the Sap ſtirs. So the Hedger that wants Work often ſays, it is beſt to make a Hedge early; but it's found by experience, the latter Seaſon is beſt, eſpecially an old Hedge. And for want of knowing the way of managing a gummy Tree, I have formerly ſuffer'd the loſs of ſeveral fine Cherry-Trees.

To help other ſorts of decay'd or barren Trees.

Many are the ways preſcribed and practiſed, as ſo many Catholicons, for helping and reſtoring theſe ſorts of Trees; ſo that if a Tree wants Sap, or has too much of it, one and the ſame Remedy is to be made uſe of in both the caſes; and therefore as the true cauſe is firſt to be found out, the following Applications may be made uſe of. In caſe then a Tree is too deep planted, got moſſy, or kankered, after cutting the Cankers out, dig up as much Mould as can be got from about the Roots of the Tree, (and ſome let them lie thus uncover'd moſt part of the Winter, for the Sun and Froſts to benefit them by their healthful Influences,

and

and in the Spring,) then take up as much Graſs-Turf as will fill up the Hole or Foſs, cut it into pieces, and put it Graſs downwards upon all the Roots. This being full of riches, and lying hollow on them, will in time, by the ſubſequent Rains, waſh down and impregnate the old Roots with new fertile Salts, and cauſe a renovation of the whole Tree. But this is not all, the Head muſt be managed as well as the Roots, and that by making uſe of the back of a Knife, and rubbing and ſcraping the Tree when it is wet, therewith; or, when the Tree is dry, to rub it and the Arms of it with a Hair-Cloth: this Method is abſolutely neceſſary not only to moſſy Trees, but on the moſt healthful, in order to keep them ſo, and prevent Moſs, and is, in proportion, as requiſite as currying to a Horſe: for the Bark to the Tree is as the Hide to the Horſe, and both require dilating and cleanſing by frequent rubbings and ſcrapings with proper Inſtruments. This uſage I have known to recover and bring into an advantageous ſtate of plentiful bearing, ſeveral old large Apple and Cherry Trees, even without digging or breaking any Ground: the Trees were over-run with Moſs, and turn'd to little account, till a poor Day's-man took the Orchard, who, for the ſake of obtaining Fruit to pay his Rent, was tempted to

uſe his diligence in this manner, of clearing the Trees of their Moſs.

Others again, will dig up the Mould about the twentieth day of *June*, when they make their new Shoots, and apply dead Dogs, Sheep, or other Carrion in its room, to the great amendment of the Tree; alſo the Blood of Hogs, or other Cattle, and likewiſe the Excrement of their Paunches is of great importance. And this laſt Spring I apply'd to the Roots of a young Vine that grew againſt my Houſe, the Blood of a Hog; but at the firſt coming of the hot Weather, the Blood began to be offenſive: I therefore took a Pail of Wood-Aſhes, and covered the Border all over, which being waſh'd in by the Rains, the fix'd Salt of the Aſhes ſoon overcame the ill ſtench of the Blood; and both theſe by emitting their ſeveral Salts to the Roots, made the Vine ſhoot more in one Summer than it had done, I think, in three before. From whence I conclude, that Aſhes in particular, moderately made uſe of, are of an excellent nature in promoting the Growth of the Vine, or any other ſort of Fruit-Tree whatſoever; and ſo is the Salt of Urine, if prudently uſed. An Example of its great Efficacy I ſaw at *Dagnal*, about a Mile from me, where, againſt the Back-door of an Ale-houſe, there was one grew, and bore more Grapes, they ſaid, than any one Vine in ten Miles round, againſt a South-Eaſt Aſpect;

Aſpect; and this great fertility, they own'd, was owing to the People's piſſing upon and about the Bank that cover'd the Roots of the Vine. Yet here I would remark, that altho'-the two ways above mentioned are very good, I ſhould think the laying all Turf about the Roots is rather too ſolid, and will become too hard, ſo as to hinder the Rain and Air coming eaſily at the Roots; and all Furze will be too hollow: therefore I am of opinion, that a Layer of Furze and a Layer of Turf will do beſt. Some will take Chalk and put next upon the Roots of a moſſy or too deep-planted Tree, and cover with Turf.

Of checking the Sap in Trees, to make them more prolifick.

The Extreme of too much Sap is a grievous fault, and is always an Enemy to Fruit-bearing; and therefore ſometimes a Tree will by this means run into Wood, and not into Fruit. Again, it will ſometimes be overpower'd with Fruit, but then it is ſmall, and will not bear again perhaps in three Years. In this caſe, lay open its Roots in *February*, and cut off cloſe by the Stem, ſome of the largeſt Roots, with a ſharp Chizzel, then throw in the Earth preſently; this will hinder an overflux of raw Sap, and help it to digeſt its Juices regularly.

Where the Sap is too firm in a Pear-Tree, either Wall, Dwarf, or not too big a Standard, then cut his outer and inner Bark quite round four Inches broad to the naked Body, and it will grow and bear Fruit the better; but no other Tree will bear this uſage: becauſe the Pear-Tree having the largeſt Pith, the Sap has ſufficient paſſage that way: And this I have ſeen done to a Wall-Pear at *Penly*, which bore Fruit the better for it afterwards. Another way: Suppoſe your Tree in an Eſpalier is too ſtrong in its growth, that moſt or all its Wood is over-luxuriant to bear the next Year; then from the middle of the Tree let a ſtrong Shoot grow up, to carry up the moſt watry Juices, and the young Wood in the lower part will bear, while the other may be trained to make a head above the Eſpalier, and will alſo bear plentifully, whilſt the bottom part will alſo produce abundance of Fruit. Another way is, to mark the Bark of a Tree round and round, in a ſcrew-like manner, and cut the Bark in thoſe Marks to the Wood, about the tenth part of an Inch wide. There is another nearer way than this, of making Trees bear Fruit; and that is, by budding, or graffing them with Buds or Scions of good bearing Trees, which having a good-digeſted Sap in them, will communicate it to the ſeveral parts of the Tree, and make it fruitful.

All

All tranſplanted Trees are certainly very much check'd at their removal; but the Art is to find out a Method beſt to preſerve them from deficiency. For my part, I think the very beſt natural Seaſon to remove a Tree in, is *October*, and in a moiſt time, when the Ground is thorough wet, and to replant it as ſoon as poſſible with as much Mould on it as can be brought away. As to planting at Midſummer in Mud, and keep watering the Plant after, it is right, and only ſo, when neceſſity obliges.

Of the Aſpect, and the Expoſition of Trees, and their Shelters.

There are old traditional Directions repeated in Books, That a Tree in removing or tranſplanting, ſhould be firſt marked in the Bark, that it may ſtand juſt in the ſame manner to the South as formerly; and alſo that they ſhould be ſet in ſuch an Age of the Moon. But both theſe, and many more, are juſtly confuted by the more ſagacious modern Authors, and more ſubſtantial Truths and Methods inſtituted in their room. Yet it is of great conſequence to plant a Tree in a right Situation and Aſpect, both againſt a Wall or a Standard. In a Field, where a Row of Trees are planted on a Baulk, they generally are not far from a Hedge, which if thick and tall, may ſhelter them whilſt

young, and after, if they run not very high, from the North and Eaſt Winds, *&c.* This ſo much defends the Fruit-Trees, as many times to hinder their Blights, when others ſuffer. And likewiſe in planting an Orchard, the talleſt ſort of Trees ought to be ſet next the North, North-Eaſt, or North-Weſt, to defend the more ſhort from the violences of thoſe quarters in particular. And not only ſo, but the very particular ſort of Fruit ſhould be conſulted, that they may be ſuch as are moſt hardy. Indeed, Mr. *Bradley* carries this intimation farther, and lays a great ſtreſs on chuſing and adapting Rows of one intire ſort of Fruit, or wholly a Plantation of one ſort of Pears, Apples, *&c.* becauſe when they are planted promiſcuouſly, the *Farina* or Seeds are carry'd in the Bloſſom-time by the Winds from one ſort to another; which occaſions a kind of adulteration in the Fruit, and alters the genuine taſte in thoſe Fruits, that otherways would have them. According then to this Doctrine of his, how valuable muſt this Field-Planting be? For here, the Trees in their great diſtance of Rows are cut off of that ſort of prejudicial communication, and the Fruit enjoy'd in their original and true priſtine State. And this reminds me of the complaint I have of late Years heard, that the true and great *Kentiſh* Pippin is ſo degenerated, that now there is none to be had as formerly for good-

goodneſs and bigneſs. It ſeems therefore, according to my conjecture, that the want of this Knowledge and Practice, may probably be the occaſion of it.

Of the Choice of Fruit-Trees.

Trees are certainly like Animals, as to Youth and Age: And here I muſt own my miſtake, which ſome Years ſince I was guilty of, in preferring old large Apple and Pear-Trees before young ſmaller ones. And being in a Nurſery at *Redburn*, I thought my ſelf in the right of chuſing theſe large Trees about twelve Years old, to tranſplant in my Fields; when the ſame Seaſon I had ſome from *Brentford* about four Years old, that grew at leaſt three times faſter in one and the ſame Field. The former I had off a poor Ground, which, according to the ſhallow and utterly wrong Notion of ſome, is eſteem'd a valuable opportunity, when from thence they are tranſplanted into a more rich Soil: but this I have found to be a very groſs miſtake. To explain which, I refer, as I ſaid before, to the Animal Kingdom, where 'tis obvious, that if a Beaſt in his Youth is ſtunted for want of ſufficient Food, *&c.* he will never thrive, nor arrive to that Bulk of Body and Tallneſs, as his Fellow that was brought up under the moſt plenary Advantages; even ſo it is with a Fruit-Tree,

as they may ſurely prove that try the difference. In a Nurſery, particular Care ought to be had in the inſpection of Trees, that none may be made choice of that has a Canker, or any tendency thereto; for this is a malignant Diſeaſe, and is ſeldom cured but by cutting out: ſo no leſs Care is to be had in buying thoſe that are well rooted; for without that our hopes are vain. And notwithſtanding the common Cant of the Nurſery-Gardeners, who often impoſe on the Ignorant, by telling them this or that Tree will grow, altho' but half or a quarter rooted, give them not credit. It is true, they may grow and languiſh for a little time; but the former Reaſons I have laid down, of the loſs of our Hopes and Profit, the precious Time and Ground, is enough, I hope, to prevent this Impoſition. A great Fruiterer in *Thames-ſtreet* told me, that great part of our Apple-Plantations ought to be extirpated, or their Heads cut off, and better Fruit put on; for that in the room of others, the Golden Rennets, Pippins, and Pearmains ſhould be planted; for their great uſe, I ſuppoſe, in making Cyder of that ſort, as at this time of day is reckon'd moſt wholeſome to the Body, and agreeable to the Palate, and alſo for their great Uſe in the Kitchen, and at Table, above others. And here I add my Sentiments of another ſort, which is now very much in vogue, namely, the

the Non-pareils; I mean ſuch as are grafted on the free Stock, in order to become tall Standards, as ſome are by me on high Ground, and a cold loamy wet Soil. This Apple is a Bearer on ſuch a Tree, and has a great many good Properties belonging to it; it is an Apple that will make very good Cyder, and now generally preferred at Table. It keeps a great while, provided due Care is uſed in its Conſervation: Not as ſoon as gathered put in heaps on Wheat Straw, as the common way is, for that generally terminates in their Rottenneſs, becauſe the Fruit will in a little time ſweat, and naturally expel their Phlegmatic and crude Juice, which will not fail of wetting the Straw they lie on; and this, after the Sweat is over, will conſequently rot the Fruit: for all keeping Fruit has ſeveral Arch-Enemies attending it; the one is Moiſture, the other Froſt, and the third the ill Savour of the Place, or Boards on which they lie. The firſt is prevented by letting them lie in heaps in large tall looſe Baskets, ſuch as the *Thames-Street* Fruiterers uſe; or on Oak, and not Deal-Boards (unleſs they are very old) elſe the Turpentine Scent will affect the Fruit; and laſtly, by keeping 'em in ſuch warm dry Places, where neither Froſt, or Moiſture can do them damage. I have drank ſuch Pippin Cyder, as I never met with any where but at *Iving hoe Arſon*, juſt under our *Chiltern* Hills,

Hills, where their Soil is partly a Chalky Loam: it was made by its Owner, a Farmer, and on my recommendation our Miniſter went with me to prove it, and gave it his Probation. This was made from the *Holland* Pippin: And of ſuch a wholeſome Nature is the Pippin of any ſort above all others, that as I remember there is a Relation of its wonderful Influences, I think it was in *Germany*; a Mother and two or three of her Sons having a Trial at Law, were ask'd what they eat and drank to obtain ſuch an Age, which was 4 or 500 Years that they all made up amongſt them; they anſwered, chiefly by eating the Apple, and drinking its Juice. And I knew an eminent rich Lawyer, almoſt eighty Years old, who was very very much debilitated thro' a tedious Sickneſs, on the telling him this Story, got Pippins directly, ſliced them to the number of a Dozen at a time, and infuſed them in Spring-Water, and made it his common Drink, till Cyder-time came on; alſo he fell on planting a Number of Pippin-Trees in order to his enjoying their ſalubrious Quality, and a fine Plantation there is at this day in his Gardens a few Miles from me. This Practice of his drinking the Pippin Liquor and Cyder, anſwered extraordinary well, for he lived ſeveral Years after, in a pretty good State of Health.

To

To make a Stronger Cyder than the common way:

Not in the Screw-Preſs, ſo well as the Lever-Preſs, becauſe the firſt confines the Bag too much, and ſo the middle part of the Bag eſcapes the regular Preſſure that the two Outſides enjoy. But the latter has the greater opportunity of forcing moſt part of all the Apples in the Bag. Now to have the beſt part, is to ſqueeze the Apples in the Bag very ſoftly, and but little: this firſt running of the Apples is as the firſt Wort of Malt.

Of Planting the Sides of Barns and Outhouſes, &c.

And here I muſt take notice of a general Misfortune, that I frequently ſee in my Travels, of many brave Sides of Barns and Outhouſes, Pails, and ſometimes Partition-Walls, loſt (as I may ſay) by being not improved with Trees anſwerable to ſeveral Aſpects and Bearings; and the rather, for that the Thatched Eves hanging more over, and being more thick than thoſe of Tiles, are ſo much the more valuable, for their great ſecurity in preventing Blights. For moſt of our Blights in Spring and Autumn fall perpendicularly; that is to ſay, the condenſed Vapours,

Vapours, falling from the upper Region, do form themſelves at Night, when the Sun has withdrawn his hot Influences, toward the Surface of the Earth, in Dews and watry Drops, ſubject to be frozen by the coldneſs of the Air. And therefore the more any thing lies open and expos'd to the perpendicular deſcent of Vapours, the more will it be ſubject to be frozen and blaſted; the truth of which is confirmed to us both by Reaſon and Experience: for the Obſervation of this is plain, when the Leaves and tender Shoots of a tall Aſh-Tree, in one of thoſe blighting Nights, may be ſeen to be frozen and as it were ſindged at the bottom and middle parts of the Tree; whilſt the upper part, that is exalted above the Influence of the Miſt, ſhall be left free and untouch'd. But as to the black Wind-Froſts which come more Horizontally, altho' theſe Eve-Shelters are of ſingular advantage, yet I am forced every Spring to make uſe of our common five-ſloted Hurdles of eight or nine Foot long, and about four wide; theſe I have drawn with Straw-bands and woven thro' the ſame, which I put againſt my Wall-Fruit ſlopewiſe; and theſe are in my Opinion far better than Mats, becauſe they are of leſs Coſt, and admit more Air to the Trees, when at the ſame time they keep off the Wets and Froſts in a great meaſure, are eaſily put up and down when the Weather encourages, and do not break the Bloſſom

nor

nor Fruit, which Mats often do. And ſuch Advantages have been found in defending the bloſſoming Trees from the Wets, that ſome have put large Frames of Glaſs over, or before ſome of the beſt Sorts, when they are in Flower, and hardly a Bloſſom miſſes ſetting for Fruit. I ſuppoſe the Rain in this Caſe prevents the flying about of the *Farina fœcundans*, or impregnating Duſt, without which, Generation in Plants becomes abortive; ſo that it cannot perform its office of ſetting the Fruit, or in other Terms to light upon, or enter the *Uterus* of the Bloſſoms. This Duſt, Mr. *Bradley* ſays, is the Male-Seed, and muſt be received into the *Uterus* of the Female, in ſuch a manner as to reach the *Ovum*, and even to lodge itſelf in that Egg, before the Female can become pregnant. And again it is no leſs certain, that the Seed of all Animals in Health abound with living *Animalcula*, ſome one of which, when received into the Egg as its proper *Nidus*, becomes in due time a perfect Animal according to its kind. Theſe *Animalcula* are eaſily diſcovered by good Microſcopes; and that ſome of the *Semen*, which abounds with theſe *Animalcula*, does paſs into the Egg itſelf, is evident from the Obſervations one makes every day of the Cock's-tread, in the Eggs of Fowls and Birds, without which it is known that the Egg will be unproductive. So it is plain, that if the Male-Seed

does

does not paſs into the *Ovum* of the Female, the Female cannot become pregnant, nor be productive of its own Species. The Proof of this is plain alſo in Vegetables; for if a Hazel-tree ſtood in a place diſtant from any other, and the Catkins were timely in the Spring cut off, there ſurely would be no Nuts that Year on the ſame, becauſe this is a Gelding or Caſtration; for the Catkins retain the Male part, and the ſmall reddiſh Bloſſoms the Female; which at a due maturity opens, and by the Wind receives the Male Duſt that is ſo blown from the Catkins, and becomes impregnated. Again, there is a terrible Misfortune that ſometimes happens by Vale or Dale Miſts, eſpecially when they are accompanied with a Froſt, and when at the ſame time, the hilly Grounds about them entirely eſcape; and even on *May-Day* it has totally deſtroyed the young Mulberries, Cherries, Plumbs and Walnuts, *&c.* Which proves that Hoar Froſts in *Spring* and *Autumn* are moſt dangerous Enemies; but dry Froſts are not ſo bad as wet ones. To prevent then in ſome meaſure theſe diſorders, ſome of late have planted moſt kind of Fruits to a right expoſition of the Sun againſt Eſpaliers, which they guard both before and behind as they ſee occaſion, with portable Reed Hedges in Frames; ſo that the Trees cannot eaſily receive any harm, either from the blighting Winds or Rain: for theſe Frames

Frames may be ſet ſo cloſe to the Eſpaliers, that the Rain cannot get at the Bloſſoms to wet them; for Rain, when the Air is in motion, cannot fall exactly downright.

Tranſplanting of Trees.

Tranſplanting of large Trees I think is done in the beſt manner, when they dig a large Trench or Gutter about them, in *October* or *November*, that the Froſt may come more immediately round the Tree, Root and Mould, and will keep all three ſo firm together, that they may be taken up by the help of Pulleys and Levers, or by Levers and Mattocks, and carried on a Sledge to any other Place.

But young Trees may be eaſier done, by drawing them leiſurely out of the Earth, or dug up with all the Roots that can be got, and with as much Mould as can be brought away with them, and ſet in Virgin Mould; always endeavouring to ſpread and lay the Roots ſeverally in their new Place, and plant as is before directed.

If neceſſity obliges any Perſon to tranſplant in the *Summer*, then Mr. *Bradley*'s way is beſt; that is, to plant the Roots in a Pap, or Mud, and keep watering throughout the *Summer*. This indeed will make them ſtrike, and make new Roots directly, altho' tranſplanted with the Head and Fruit on.

As I remember, it was about the Month of *April*, when that generous Gentleman, *Richard Screen* Eſq; whoſe Seat is near *Bath*, gave me leave to preſent him with ſome Cuttings of White-Elder, of about two Foot long, which I did, and ſent them to him at *London*; where I deſired he would let his Servant ſoap the ends of them very well, as I did here before I ſent them: he was pleaſed afterwards to return me his Thanks for the ſame.

Alſo, as an Author ſays, if a Tree be carried a great way, even in the open Air, it may be ſafely done by waſhing the Roots and anointing them with Soap all over.

Currants and Goosberries may be made to grow as Standards, the former twenty Foot high, and the latter twelve. The Goosberry at firſt, as well as the Currant, muſt be ſtaked up: The Currant will alſo cover an Arbour well. The great white and red *Dutch* Currant is a fine Fruit. But for the lateſt Experiments and Methods to improve them, I refer my Reader to Mr. *Cowell's* curious and profitable Gardener.

EXPLA-

EXPLANATION of ſome WORDS in this BOOK.

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ASPECT, is ſuch a Poſition or Bearing of the Side of a Wall, Barn, Houſe, or Garden, to the *South*, *Eaſt*, *North*, or *Weſt*.

Back-bouting, is done by drawing the Plough once forward and backward, thorough that which has been boughted.

Baulks of Graſs, are thoſe which ſome call Hedge-Greens; they lie next to the Hedges in ploughed Fields, and ſerve to turn the Plough-Horſes on.

Boughting, is made by two Thoroughs, that the Plough by going backward and forward, throws up againſt each other.

Broad-land Ploughing, is juſt turning an even Piece of Ground topſey-turvey, and is the neateſt, cleaneſt Ploughing of any other.

Combing, or *Hacking of Land*, is made by the Plough's being drawn forward and backward cloſer than Boughting in ſmaller

Thoroughs; and tho' a little ſharp Ridge, or Sleeving be left, yet in a manner, this is near clean Ploughing.

Four-thoroughing of Land, is not clean Ploughing, but running up four Thoroughs cloſe together with the Plough; is beſt done off Wheat-Stubble Stitches in the *Winter*, to ſweeten for Peaſe or other Grain: or Broad-Lands may be ploughed into four Thoroughs, a good Method.

Horſe-houghing, is ſo called by reaſon it ſaves Man's Houghing; not that a Hough is uſed by Horſes, but their drawing a Plough in a particular manner ſupplies the uſe of a Hough.

Hove in Cheeſe, is a Hollowneſs with Eyes, cauſed by being made from Clover.

The Hoving of a Cow, is otherways a Swelling cauſed by the Wind, in Clover or Lucern Graſs.

Kerning Ground, is that which, dreſt well, will produce a great quantity of Corn, as Gravel does, when others will run more into Straw and leſs Corn.

Loamy Ground, is that between Sand and Clay, of a Hazel Colour, and is of all others the beſt Sort.

Nitrous Dews, are Salts in the Dews, which are beneficial to all Roots they come at.

Smutty-Wheat, is that, which is diſcovered by it's Black Ear, and may be ſeen in

ſtanding Corn, from that which is ſound. Upon rubbing it on the Palm of the Hand, it will leave a Black Powder like Soot.

Tilth, or *Tilt*, is Ground reduced by the Plough and Harrow to a fineneſs or Powder.

Thoroughing down, is drawing the Plough once thorough the Bout, to lay it plain, for Wheat or Barley.

FINIS.

Books Printed for Weaver Bickerton, Tho. Astley, *and* Stephen Austen.

I. THE Curious and Profitable Gardener, by *John Cowell*, of *Hoxton*. Containing, 1. The moſt uſeful Experiments for Improving Land by Grain and Seeds. 2. Curious Directions for cultivating the Choiceſt Fruits of the *Eaſt* and *Weſt Indies*, at a ſmall Expence. 3. Extraordinary Remarks concerning the raiſing of the Flowers from Seeds. 4. Particular Obſervations and Rules for the Management of Dwarf Fruit Trees, Wall Trees, Eſpaliers and Standards, with a new Method of rendering them more Ornamental and Profitable than is commonly Practiſed. To which is Added, An exact Deſcription of the Great *American Aloe*, it's manner of Bloſſoming and Uſes; together with the Culture of that, and many other Rare Exotick Plants; with an Account of the moſt Beautiful kinds of *Torch-Thiſtles* and their Flowers, &c. Alſo the Hiſtory of the *Glaſſenbury-Thorn*, and the peculiar Qualifications of that wonderful Plant. Adorn'd with Curious Cuts.

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